THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

SEPTEMBER, 1898.

WORKMEN'S COMPENSATION ACT, 1897.

A CONSIDERABLE number of our readers, besides being veterinary surgeons, are also master farriers, and in their interests we have thought it advisable to obtain a legal opinion from our solicitor as to the effects of the Act, as far as it concerns master farriers, and append his opinion hereto.

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This important statute came into operation on the 1st of July last, and I shall endeavour to give your readers, as shortly as possible, some idea of the changes effected by it so far as concerns them. Prior to the passing of the Act the liability of an employer to his servants was twofold,—

1st. At common law.

2nd. Under the Employers' Liability Act, 1880.

The common law liability of the employer was only incurred to an injured servant if he, the employer, had personally failed to use reasonable care in carrying on operations, or in furnishing machinery or material and plant, or in selecting competent servants. The important point was that the master was not liable at common law to compensate a servant for injuries caused by a fellow-servant. The principle was, that the negligence of fellow-servants was one of the risks the employee undertook when he entered his master's employment, and a fellow-servant was construed to mean anyone in the employment of the same master, however much higher or lower in grade than the injured employee, provided, of course, he was not a partner in the employer's firm.

The Employers' Liability Act, 1880, extended the responsibility of the master in certain cases where his workmen sustained injury. The provisions of the statute imposed liability on the employer for injuries to a servant, if such

injuries were caused through the fault or negligence of any person in the service of the employer who occupied the position of a superior, and in certain other similar circumstances specified in the Act itself. It might be mentioned that it has been held by the Court that horses are "plant" within the meaning of the Act, and therefore it would seem to follow that if an employee receives a horse for certain purposes for which it is defective or unfit and he is injured on account of such defect or unfitness, his master would be liable to him under the Act. Indeed, there have been cases where the master has been held responsible under this Act for the death of an employee which was caused by a kick from a vicious horse. The liability at common law and under the Employers' Liability Act so far as employers are concerned, applies to both veterinary surgeons and master farriers.

Having so far summarised the law as it stood prior to the passing of the Workmen's Compensation Act, I come now to that Act itself. It imposes a further and much wider responsibility on the employer.

The main provisions of that Act make an employer in the trades which are affected by it practically the insurer of the lives and limbs of his employees against any accident whatsoever occurring in the course of the employment, except such accidents as are caused by the wilful fault of the workmen in respect of whose injuries a claim is made. That is to say, that even in case of an accident caused by wilful fault on the part of an employee, a master would be liable for the injuries caused to all the other employees, the defence being available only in respect of the claim arising out of the injuries of the one whose wilful fault caused the accident. No compensation is due under the Act when the injured workman is not disabled for a period of at least two weeks from earning full wages at the work at which he is employed. The measure of liability is in the case of death, and where the workman leaves dependants, three years' earnings, or £150, whichever of these sums is the larger, but not in any case more than £300. And where the workman leaves no dependants, the reasonable expenses of his medical attendance and burial, not exceeding £10.

This extraordinary distinction between a man with dependants and one without dependants must, in the course of time, affect the married working-man considerably, as undoubtedly the tendency of employers, other things being equal, will be to employ unmarried men. There are various provisions in regard to injuries and in regard to arbitration,

to settle the compensation due, which perhaps it is not necessary to detail here.

The next point to be considered is how far the Act affects the veterinary profession. Where the veterinary surgeon adheres to the practice of his profession alone, there is no doubt whatever that he does not come under the provisions of the Act. Where he also engages in the business of a master farrier, he would seem again, in this case, not to come under the general provisions of the Act. That is assuming that the work carried on in his shop is strictly confined to the shoeing of horses and such work as is necessarily connected therewith; but if he undertakes the general work of a blacksmith, or introduces machinery into his shop, my opinion is that the statute applies. It would seem also that even as a master farrier, if he sends his men to work at a wharf or a dock, or where there is machinery, he would be liable to them under the Act for any injuries sustained by them while engaged in work at such a place. He might also be liable if he sent his servants to assist workmen who are working at a job which falls under the Act.

The introduction of this Act has caused quite a sensation in business and insurance circles, and the action of the tariff companies in the amounts proposed to be charged for premiums has been very severely criticised, and I understand that the work of insuring has been mostly undertaken by non-tariff companies, who have given to employers rates very much more moderate than the tariff companies.

In conclusion, it may be pointed out that an undertaking by an employee that he or his representatives will not claim under the Act, is not worth the paper it is written on, as workmen are only allowed to contract themselves out of the Act where there is a properly formulated scheme for compensating workmen, which scheme must be certified by the Registrar of Friendly Societies as being as favourable to the workmen as the compensation provided by the Act.

In a short *resumé* of this nature the information contained cannot of necessity be exhaustive, but I have endeavoured to point out the position in which many practitioners may be placed and the risks they may incur. And I cannot help remarking, in conclusion, that some confusion must inevitably arise from the fact that the New Statute of 1897 does not wholly supersede the Act of 1880, which is still in force.

POST-MORTEM EXAMINATIONS.

BY DIOGENES.

WITH what interest we looked forward, as students, to an autopsy? We had percussed and discussed, auscultated and hesitated, prophesied and recanted as to the conditions to be looked for, when a *post-mortem* examination should remove all doubt as to the nature and extent of the disease, the symptoms of which we had noted during the animal's illness.

We had determined that in after life as practitioners, we would prosecute our pathological investigations by a *post-mortem* examination of every case when it was possible by the expenditure of any amount of time and trouble to accomplish our object, but alas! those who have practised for half-a-dozen years will confess that no form of enthusiasm evaporates so quickly as that for the unpaid examination of dead animals.

There are many legitimate excuses for such waning zeal. Our time has become valuable, a new experience to many. The subject may be a heavy draught horse or bulky bullock, several miles from home, and no intelligent assistance can be obtained, perhaps the time of one or two farm hands is even grudged, and certainly the skin of the dead patient will be too much valued to permit us to cut down on the part we want without the slow and laborious process of removal in the usual way.

Unless we carry antiseptics, we are hardly safe in handling carcases, as our next call may be for the purpose of castration or to aid in parturition. For both of these operations we are unfitted by handling the viscera of animals dead of disease.

The carcase may be in a cramped shed, or exposed on a bleak mountain side to frost, snow, or storm, or lay upon a fat pasture in a broiling sun, with a thousand flies ready to convey infection to other creatures. If an infectious disease, we ought not to open the beast under the conditions last named, as mares and cows in calf will be attracted to the spot and rendered, whether by nervous excitement or specific infection, liable to abort as a consequence.

If we make many unpaid examinations, ignorant clients are apt to suppose that we distrust ourselves, and instead of gaining in reputation for our painstaking zeal, quite another interpretation is put upon our conduct.

A large proportion of the autopsies we do make are performed in a perfunctory manner, and there is often very little that we can see, and nothing that we can show, to the owner

or his representative, who will usually look on, if he affords but little real assistance.

With our services in request at distant places, it is soon found impossible to carry out our good intentions, and the *post-mortem* examination is less and less often performed—as a labour of love.

In London and other large cities the very facilities offered lead to indifference, and the more thoroughly business aspect that our work assumes makes it well-nigh impossible to spare time. There is no idle curiosity to satisfy; the death of a horse, or a dozen, is a comparatively small matter with large firms, who base their calculations upon averages, and write off so much per annum for deaths and depreciation without much regard for detail, so long as there is no great disparity between the year under consideration and those preceding it.

The private gentleman, or small owner, may order a *post-mortem* examination, but will be very unlikely to attend it in a knacker's yard.

The business of a veterinary surgeon in London or other large town is carried on *as a business*, and keen competition with other practitioners for contracts at unremunerative rates is as well calculated to destroy the zeal of the townsman as the distance, indifference, suspicion, or obstruction which hinder the country man.

The licensed premises of the slaughterman may be distant, as one reckons distances in towns, and the knacker will send us word as to the cause of death if we give him the usual shilling; indeed, he will do more than that without so much as a hint from the unscrupulous; if he but know our diagnosis he will supply the owner with abundant corroboration—*through the telephone* or otherwise. We have heard of a West End practitioner whose faith in the slaughterman's knowledge of *post-mortem* appearances is so great that he makes all his examinations through the telephone, and thus avoids the nauseous surroundings to which other less favoured individuals are willing to submit in the cause of science.

If we would become increasingly useful to our clients, and continue to progress in knowledge of our work, the *post-mortem* examination must not be neglected. We are not always busy, it is not always raining cats and dogs, nor is the subject invariably too far away or inaccessible.

GENERAL SIR FRED. FITZWYGRAM, BART, M.P.'s VETERINARY PRIZES.

THE result of this year's competition for the above prizes amounting to £100, and open to graduates from each of the four veterinary colleges, is as follows:—

1st Prize, £50—Mr. W. Jowett, M.R.C.V.S., New Veterinary College, Edinburgh.

2nd Prize—Mr. T. Wolsey, M.R.C.V.S., Royal Veterinary College, London.

The third prize was not awarded.

SEVENTH INTERNATIONAL CONGRESS OF VETERINARY SURGEONS AT BADEN-BADEN, 1899.

IN accordance with the resolution of the Seventh International Congress of Veterinary Surgeons, held at Berne in 1895, the Seventh Congress will take place at Baden-Baden in the year 1899. The veterinary surgeons of Baden are entrusted with the carrying out of the arrangements. With the consent of an international meeting, held at Stuttgart in June, 1896, they have formed the undersigned committee of management, which has resolved to hold the congress in Baden-Baden in the first half of August, 1899.

The programme is as follows:—

(*a*) Precautionary measures against the spread of epidemic diseases in consequence of international trade in animals;

(*b*) The prevention of tuberculosis among domestic animals and the use of the flesh and milk of animals suffering from this disease, and, connected with this, the latest demands for an effectual meat inspection;

(*c*) The prevention of foot-and-mouth disease;

(*d*) The prevention of swine fever;

(*e*) The forwarding of veterinary science, especially by the erection of institutions for experiments in diseases and by founding chairs of comparative medicine in colleges for veterinary surgeons;

(*f*) Conclusion of the work of the drawing-up of a common nomenclature in veterinary medicine;

(*g*) Official veterinarianism.

This programme may be altered or supplemented if generally desired.

In the proceedings, besides the German language, English

and French will be permitted. Arrangements will be made for the immediate translation of all speeches and reports.

In consideration of the great expenses connected with the congress, the fee for members is fixed at M 12 = 12s. For ladies who wish to attend the congress, ladies' tickets will be issued on applications, price M 6 = 6s.

Every member, even if unable personally to be present in Baden-Baden, will receive copies of all publications of the congress, including the General Report. The sale price of this report, which the members will receive free of charge, is fixed at M 16 = 16s.

Arrangements for rooms for members of the Congress will be made by a Lodgings Committee in Baden-Baden. We are already in a position to state that those who take part in the congress will be able to find board and lodging from M 6 per day. The town of Baden-Baden has undertaken, by arrangement with the Bad Committee, to provide special entertainments and festivities for the members.

The Grand-ducal Government of Baden, and the Chancellor of the Empire have generously made a considerable grant towards the expenses of the congress.

Dr. Lydtin, Geheimer Oberregierungsrath, Lichtenthalerstrasse 9, Baden-Baden, will be happy to give any further information which may be desired.

The "Filiale der Rheinischen Creditbank in Baden-Baden," will act as treasurer.

For information respecting lodgings, apply to the Orts ausauschuss des Seventh Internat. Thierärrtl. Kongresses, Lichtenthalerstrasse 9, Baden-Baden.

The Committee of Management, in issuing invitations to the congress, feels it may safely assure those who desire to take part in it that the time spent in Baden-Baden will not only be of the greatest professional importance, but will also offer the participants the pleasures and amusements of a first-class watering-place.

In the name of the Committee of Management of the Seventh International Congress of Veterinary Surgeons,

Dr. LYDTIN, *President.*

BADEN-BADEN, 15*th June*, 1898.

VETERINARY SURGEONS AND THE BOARD OF AGRICULTURE. AN EXPLANATION.

MANY practitioners who have been engaged by the Board to inspect and report upon suspected cases of swine fever have

felt aggrieved at what they considered a lack of courtesy on the part of the Board. The grievance is that after a practitioner had inspected swine, killed some, made *post-mortem* examinations, and forwarded portions of viscera along with his report, no acknowledgment of any kind except his fee is received by him, so that he is left in ignorance as to whether the officials agree or disagree with his report. The editor of the *Veterinary Journal* accordingly wrote to the Department, and has received the following courteous reply:—

BOARD OF AGRICULTURE, LONDON, S.W.,
9th August, 1898.

DEAR WILLIAMS,—At first sight I cannot help admitting that it does appear somewhat discourteous not to tell the members of the profession who so kindly help both my colleagues and myself the results of our inspection here. At the same time, I think you will agree with me that it would be a very great undertaking when I tell you that the number of specimens of swine-fever alone which we have received has been as follows:—

1894	12,054
1895	16,434
1896	13,221
1897	5,386

Imagine the amount of work it would entail if we merely wrote one letter in each case! But the work would certainly not end there. Our friends would, without doubt, write again, asking why we disagreed, and that would entail, if we answered, our keeping a description of what other lesions were present in the specimens, and describing them in a further letter, and, after all, I don't quite see what good would arise from sending the information. In all instances where we have any doubt we always send the same man again in a week, or even sooner if we hear that further animals die. Indeed, I have known cases in which we have sent the veterinary surgeon four times before he could decide. Personally, I wish we could do what you desire, but I fear it is quite impracticable.—Yours faithfully,

ALEX. C. COPE.

BRITISH MEDICAL ASSOCIATION.

Sixty-Sixth Annual Meeting, Edinburgh, 1898.

Exhibition of Foods and Drugs, Medical and Surgical Instruments and Appliances, Publications, Etc.

ARMOUR AND COMPANY, Chicago and London. This firm had a good display of their laboratory products, such as Pepsin, insoluble powder, granular. Scale, soluble powder, standard strength 1·3000 U. S. P., 1890. Guaranteed five times B. P. strength, 1885, also Pepsins to answer the B. P. tests, 1898. All these Pepsins are permanent in strength, free from odour, non-hygroscopic, free from peptone. They were also strong in their display of the different solutions of

Pepsins, such as Glycerole Pepsin, a concentrated solution of Pepsin in glycerine. Ten minims represent 1 grain of Armour's Pepsin, 3000 test; each dram represents 7 1-5th grains Pepsin B. P., 1898. We also noticed their beef juice prepared by cold expression from only specially selected raw material, being rich in albuminoid principles, an absence of objectional preservatives, and being easy of assimilation, commends it as a food to the system in case of exhaustion supervening on fever, influenza, gastric irritation, etc. Their collection of the different animal substances, such as Cardin, heart substance, prepared from the heart muscles of the bullock. Cerebrinin, brain substance, prepared from the grey matter of the brains of sheep. Myelin, spinal cord. Orchitic substance. Testicles, prepared from the testicles of the ram. Ovarian Tissue, prepared from the ovaries of the pig. Pituary Body, prepared from carefully selected, fresh healthy material. Glycerine Extract of Red Bone Marrow, taken from the small bones of young calves in glycerine, now used with success in the treatment of chlorosis, anæmia, and other cases of blood impoverishment of a more intractable nature. Spleen substance, prepared from the spleen of healthy animals. supra-renal capsules, thymus glands, thyroid gland, first reported and its value demonstrated by Professor Victor Horsley, who found that he could arrest myxœdema by grafting a fresh thyroid lobe. His experiments have been confirmed by many eminent authorities, and it is now used in goitre, cretinism, obesity, psoriasis.

C. J. HEWLETT & SON, LONDON, had a very considerable display, of their well-known specialities, such as Mist. Pepsinæ c. Bismutho, now a favourite remedy in the treatment of dyspepsia, gastrodyniæ, gastric catarrh, and used by the leading medical men for upwards of 20 years. Liquor Santal flav. c. Bucha et Cubeba, the recognised and original remedy for the different diseases of the urinary tract. Sol. Opii Purif., much preferred as a hypnotic to the Tincture of Opium, or other preparations of the drug, as it never gives rise to headache, furred tongue, and other disagreeable after-effects. We also noticed their popular preparation Mist. Tussi Rub., largely prescribed for coughs, bronchitis, and bronchial catarrh. Liquor Ergotae Purif., Mist. Hæmatoxyli Co. Conc., used with success in the treatment of diarrhœa and dysentery. Mist. Damianæ Co., the great remedy for brain-fag, sexual debility. Mist. Hepatica Conc., a favourite remedy in cases of jaundice, torpid affections of the liver, bilious dyspepsia,

chirosis, and chronic constipation. They also had a considerable display of Flexible Medicinal Capsules, including Bland's pill, 1, 2, and 3 pills in each capsule. Salol. sulphonal, guaicol, salicin, turpentine, oil of male fern. Easton's Syrup. Cascara, castor oil. All these capsules are attractive in appearance, flexible, easily soluble and inodorous, and are now very popular, being an easy mode of administering nauseous and bitter substances. Their collection of the new Pharmaceutical B. P., 1898, Tinctures and Liquid Extracts attracted considerable attention; so did the new drugs and fine chemicals; conspicuous amongst these we noted, Chione Glabra, a drug that has obtained in the West Indies a reputation as a powerful aphrodisiac. Monsonia, derived from *Monsonia ovata*, and first recommended by Dr. J. Maberly (*Lancet*, Feb. 6th, 1897) as a remedy for dysentery.

Orthoform. A new local anæsthetic, introduced as a substitute for cocaine, but not so soluble in water.

Antiseptic Cream. A new popular remedy as a general toilet cream, and largely employed in all irritable conditions of the skin, and in cases of pruritus, ani, hæmorrhoids, etc., as it seems to control the intolerable itching, and lessens pain by its local anæsthetic effect. Their antiseptic jellies, containing 1 part per 1,000 of perchloride of mercury, combined with thymol eucalyptus, otto, etc. These were all put up very neatly in collapsible tubes, forming a valuable addition to the midwifery bag. Their little book, "Notes on the New British Pharmacopœia, 1898," compiled by their chemist, E. J. Millard, F.C.S., M.P.S., was greedily sought after, and they distributed a great number free to the visitors. It is a useful guide to the medical man who has not studied the New Pharmacopœia. The *Lancet*, writing on it, May 28th, page 1473, says:—"A useful little pamphlet. Should be found very useful to practitioners, for it shows at a glance the alterations in the New Pharmacopœia which will have to be remembered, and the table of important alterations in particular will be found valuable." We might add that it is a concise and a very clever analysis of the Pharmacopœia, and reflects great credit on the compiler.

VIMBOS, Ltd., London, showed their Fluid Beef, also concentrated Vimbos in pots. The special feature of Vimbos is its high percentage of albuminous matter, while its delicious flavour makes this valuable food acceptable to the most fastidious of invalids.

DUNCAN FLOCKHART & CO., Edinburgh, had a very attractive display of their preparations. Conspicuous

amongst them were their well-known Chloroform. Pure. sp. gr. 1490, and Methylated. Chloric Ether, the original distilled preparation miscible with water, and is quite distinct from Spirit. Chloroformi B. P., and much superior. They also showed a good variety of capsules, Perles, Plastic Pills, Coated Pills, Compressed Tablets, Infusions, Concentrated Mixtures for dispensing, Fluid Extracts, Caffanilid, a preparation of Caffein and Acetanilid, a useful remedy in sick headache, neuralgia, and nerve pains generally. Peptopancreine, a powerful digestive agent, composed of Pancreatine, Pepsine, Diastase. Malt Extract, and Liquid Malt Extract, a good substitute for food in extreme exhaustive disease, such as phthisis and general wasting.

FAIRCHILD, BROS., & FOSTER, London, showed their numerous digestive products. Panopepton, a combination of prime, lean beef and wheat flour, in a perfectly soluble, diffusible and absorbable form. It possesses conspicuous restorative and stimulating properties, and is highly recommended in illnesses due to impairment of the digestive tract.

Pepsenica. A solution of the essential organic ingredients of the gastric juice extracted directly from the peptic glands of the stomach.

Peptogenic Milk Powder. For making fresh humanised milk in the home. By means of the milk powder and process, cow's milk is so modified as to conform remarkably in every particular to normal mothers' milk, thus affording a food for infants exactly suited to the functions of infant digestion.

Pepsin in Scales. Freely soluble and especially suitable for the preparation of pepsin solutions, wines, etc., and will digest 3,000 times its weight of egg albumen.

Zymine. The extract of the pancreas presents all the active principles of the gland in the form of a dry, whitish powder. It is claimed for it that it is not an artificial compound, free from all added substances, and contains the ferments as they are naturally associated.

BRAND & CO., Ltd., Mayfair, London, had a good display of their different preparations, which included their well-known Essences of Beef, Mutton, Veal, and Chicken. All these consist solely of the juice of the finest English meats, without the addition of water or of any other substance, and are invaluable for invalids. They also showed their Concentrated Beef Tea and Mutton, Veal, and Chicken Broths. Savoury Meat Lozenges, invaluable for travellers, cyclists, as they can be conveniently carried in the pocket, and contain substantial nourishment in a simple form. Doctors or veterinary

surgeons who have to go a long time without food will find them a necessary companion, and will go a long way to make up for loss of dinner or supper. We also noticed and noted their excellent Invalid Turtle Soup, Beef Tea Jelly, Mutton and Chicken Jellies, Beef, Mutton, Veal, and Chicken Peptones, exceedingly useful to meet the requirements of the weakest digestions; they contain not only the soluble and stimulating constituents of the meat, but also the hitherto insoluble, though nutritious, fibrine and albumen necessarily rejected from beef tea or other extracts. By a process of pre-digestion; these foods are capable of rapid assimilation by the weakened stomach, and enable the patient to approach a normal dietary. Awards, gold medals, for all these preparations have been granted to Messrs. Brand and Co. by Adelaide, 1887; Paris, 1889; London, 1889; Vienna, 1891; London, 1892; Geneva, 1892; Brussels, 1893; Amsterdam, 1895.

ALLEN AND HANBURYS, Limited, London. This firm had a most elaborate and attractive show of their numerous preparations, amongst which we noted Bynol, the "Perfected" malt and oil; Byno-Hypophosphites, a neutral solution of the hypophosphites of iron, calcium, potassium, and manganese, and the alkaloids of cinchona and nux vomica in combination with Bynin, Liquid Extract; one ounce contains about 1-40th grain of strychnine. Recommended in tuberculous conditions in which gastric irritability is a prominent feature.

Byno-Phosphates, malted chemical food. A modified form of Parrish's chemical food, the sugar being replaced by Bynin Liquid Malt.

Cokay. Coca wine made by maceration of the finest coca leaves in Tokay, Castor Oil (tasteless), the "Perfected" Cod Liver Oil. Food for infants. Throat Pastilles, soft, demulcent, and palatable, made in upwards of fifty varieties. Tablets, Capsules, and Perles "Hypoderms" for hypodermic injection. Soluble Gelatine Coated Pills. Animal extracts.

PARKE, DAVIS AND CO., London, had a good display of their liquid extracts, Sugar and Coated Pills. Enteric Pills, pills so coated as to psss the stomach intact, and dissolve in the duodenum or intestinal tract. Pink granules, Semple's Atomizing Inhaler, and various other things of interest to the physician and general practitioner.

RAIMES, CLARK AND CO., Edinburgh, showed chemical and pharmaceutical preparations which included some of the new things of the 1898 B. P. synthetic remedies. Capsules Premier Extract of Malt, Maclean's Revalenta.

ROBERTSON AND CO., Edinburgh, had a good selection of their specialities, such as Acidified Perchloride of Mercury Pellets, for the immediate formation of an antiseptic solution.

Borozine Cream and Powder, made from oxide of zinc and boric acid, and recommended in all skin affections.

Different variety of Gelatine Capsules, Gelatine Perles of Apiol, Bland's Pill, calcii sulphide. acid carbolic, creasote, guaiacol, ichthyol, nitro-glycerine, etc.

J. F. MACFARLANE and CO., Edinburgh, showed a good variety of Listerian Surgical Dressings—Gauzes, in six-yard rolls, especially designed for convenience in cutting, packed in cardboard cartons, enamelled tins, and glass jars, medicated as required. Wools and Lints put up in same form. Catgut Ligatures and Silk Sutures. Specially Purified Chloroform, first introduced in 1892, as being freer from impurity than any chloroform which had previously been put on the market, is sold at about half the cost of chloroform prepared from rectified spirit. We can with confidence commend this article to the notice of the veterinary profession as being reliable and less expensive than most makers of chloroform.

T. H. SMITH and CO., Edinburgh. This well-known firm exhibited many of their well-known fine chemicals and alkaloids. Aloin, the active principle of aloes, first discovered by T. H. Smith and Co. Resins of Scammony and Jalap. Xanthalin, an alkaloid of opium, also discovered by them. Emp. Canth. Liq., or fluid Cantharidine Blister. Tela Vesicatoria, or blistering tissue. Salicine. Piperine, the active principle of pepper.

SANITAS CO., Ltd., London, showed a fine collection of their different disinfectants, such as fluids, oils, soaps, etc., etc.

WYLEYS, Limited, Coventry. This firm had a nice display of Gelatine Coated oval Pills, Pearl Coated Pills and Pilules, Compressed Pellets, "Tropels" or Compressed Lozenges, Hypodermic Pellets and cases, Gelatine Capsules, Cachets filled with Powders, Emulsions of Cod Liver Oil and Petroleum, Fluid Extracts, Standardised Tinctures, Non-Alcoholic or Glycerine Tinctures, Malt Extract and Compounds, etc.

Messrs. OPPENHEIMER, SON and CO., LTD., London, were well represented in their various preparations of Palatinoids, Bipalatinoids, Cream of Malt, Animal Substances, etc., etc.

BOVRIL, LTD., London, had a good selection of their different specialties. Invalid Bovril, Bovril, Beef Jelly, Bovril Stamnoids. A specially concentrated Meat Lozenge, invaluable to tourists, cyclists, doctors and veterinary surgeons. Kudas Coca, a pure, concentrated, soluble cocoa,

of great strength, made from the finest beans. Wild Cherry Sauce, an exceptionally fine sauce, very piquant and appetizing, and rich in tonic and digestive properties. Also Bovril Cocoa, Chocolate, Bovril Wine, Celery Salt, etc.

JOHN WEISS & SON, London, showed some beautifully-made Surgical Instruments, which attracted much notice from the numerous visitors, and the style and finish of each instrument showed that this old firm still maintains the high reputation it has held for years amongst the medical profession. We particularly noticed their Aseptic instruments, Operating Tables, and Theatre Fittings. Brass Cabinets for instruments. Brass Instruments and Dressing Tables. Sterilizing Apparatus for instruments, and dressings in various patterns and sizes. Metal Cases of Eye instruments and Tracheotomy instruments, Glass Irrigators, Dressing Bowls, Ligature Jars, etc.

DOWN BROTHERS, London. This well-known firm had a considerable display of their numerous surgical instruments and appliances, conspicuous amongst which we particularly noted their Aseptic Pocket Cases, Aseptic, Hypodermic, Exploring, and Serum-Therapy Syringes, made entirely of metal with metal pistons. Abdominal and hysterectomy instruments, including Professor Pozzi's and Greig Smith's for vaginal hysterectomy. Needles, by Dr. Cullingworth; and Trocar for pelvic abscess, by Dr. Christopher Martin. Anæsthetic apparatus. Clover's Ether Inhaler. Mr. Clement Lucas's new Aseptic Inhaler. Dr. Rumbold's New Apparatus for Oxygen. Dr. Cock's new model Mouth Gag. Automatic Wound Retractors, by Mr. Jordan Lloyd, Mr. Lucy, of Plymouth, and Mr. Fleming, of Bath. Bone Screwing Instruments. Mr. Arbuthnot Lane's Screws and complete set of instruments for effective approximation of fractured bones by screwing. Mr. Peters' Bone-Holding Forceps for use when screwing or suturing. Clinical Thermometers, bent to fit under the tongue. Dressing Trays, new designs. Ear Instruments, Inhalation Instruments, Nose Instruments, Uterine Instruments, Vaginal Specula, Sterilizers. All these formed a very interesting collection, and attracted much notice from the visitors.

HARVEY, HILLARD and SON, Edinburgh, showed a very good assortment of their surgical instruments, such as Tait's Circumcision Clamp, Butcher's Saw, set of McEwan's Laminectomy Saws in case, Victor Horsley's Pus Seeker, Mason's Gag (all steel) with ratchet, Champetier's Forcep's, Davy's Lion Forceps, Hey's Skull Saw, Watson Cheyne's

Dissector, set of McKenzie's Nasal Scoops, Liston's Artery Forceps, Macewen's Aseptic Instruments for asteotomy, hernia, spinal and cerebral surgery, and various other instruments.

There were numerous other exhibitors, all being held in the Drill Hall, Forrest Road; and it formed a very attractive resort for the visitors, the hall being crowded each day with ladies and gentlemen. Dr. Norman Walker was the hon. secretary, and was conspicuous with a crimson-and-white ribbon badge. He certainly had a serious task to carry out, which he did with great tact and amiability. He is to be presented with a testimonial, as a mark of esteem, by the different firms.

C. J. HEWLETT AND SON, London, showed a nice collection of their well-known specialties, which included Parophyroxia, the new popular drug for the treatment of colic with impaction. The numerous testimonials from many leading veterinarians accompanying this preparation, must commend it strongly for abdominal pain with obstruction. We also noticed a new preparation of theirs, the Liquor Cinchonæ Rub. Conc., a solution of the Red Cinchona Bark, suitable as a febrifuge and tonic. Liquor Nitriti Comp., or (Elexir Nitrosus), a substitute for spirits of Nitric Ether, and much cheaper. Special Blister Ointment, a safe and efficient blister, also their Ol. Canthar. Fort., a liquid blister and specially adapted for well-bred animals with fine skins. Petrolatine, a neutral, odourless, tasteless, colourless vaseline oil. Aloes Barb., a very fine specimen, which attracted considerable attention. Pearl-coated Dog Pills. Capsules of Turpentine c. Ol. Male Fern, first suggested by Wm. Shipley, Esq., Jun., F.R.C.V.S., as a tænifuge for dogs. This firm had also a useful display of Surgical Instruments. The "Unique" Pocket Case, first suggested by Joseph Abson, Esq., F.R.C.V.S. This Pocket Case attracted much notice, as it is most suitable for general practitioners, and goes in the pocket without being bulky. It contains a double-bladed knife, a Symes' abscess knife, probe, scissors, needles, suture silk, all filled in strong pig skin, and is a neat and beautifully finished case. Parlane Walker's complete set of Parturition Instruments, the most complete set of parturition instruments that we have seen, and the invention of a practical man. The new I. R. Syringe for injecting the iodide solution for the treatment of milk fever as suggested by Schmitt. Aseptic Syringe, for injecting mallein and tuberculin. A new docking machine for colts, invented by R. C. Thompson, Esq., M.R.C.V.S., Doncaster. This is

made of fine steel, and is a very neat little instrument. We also noticed their aseptic suture tape, cord and silk, now much preferred for stitching wounds instead of wire. The whole forming a very handsome and attractive show and much noticed by the numerous visitors

WILLOWS, FRANCIS, BUTLER AND THOMPSON, London.—This firm had a good show of their different proprietary things, which included Burgesse's Plaster Bandage for weak tendons; Tenaline, the active principle of areca nut, an effective vermifuge for horses and dogs; Augean Fluid and Augean Dog Soap; Hoof Ointment; Mercurial Charges; Glycerine Belladonna; Eucalyptine Fluid Dog Wash, a nice preparation for washing dogs; Chlorodyne; Pearl-coated Dog Pills; Bismuth Oxyiodid. Flav., a substitute for iodoform; Dermatidine, a dressing for mange, and various pharmaceutical preparations.

WYLEYS, Ltd., Coventry, had a very nice display of their veterinary pharmaceutical preparations, which included Creseptol, a new disinfectant, miscible with water; Tr. Opii, B.P. standardised; Liq. Hydrarg. et Sodii Iodidi, a good alterative in skin diseases; Pulv. Opii and Pul. Digitalis Aug.; Tr. Belladonna; Duraplastic Patent Coated Horse Balls; Malt Extract; Soluble Medicated Suppositories, first suggested by Frank Somers, Esq., M.R.C.V.S.; Capsules, various, and their Green non-irritant Blister.

ARNOLD & SONS, London, had their usual handsome show of surgical instruments, many of recent introduction, amongst which was Dean's New Aspirator and Injector, for the removal of bog spavin. Haslam's Aseptic Hypodermic Syringe in nickel-plated case, and fitted with asbestos piston, as now used by the War Office. Aseptic Suture Needle Boxes. New Aseptic Hypodermic Syringe, for mallein and tuberculin. The Reliance Castrator, nickel-plated with improved spring and adjustable plate, a beautifully finished instrument, and now used and commended by many leading veterinarians for the operation standing. They also showed some very handsome Pocket Cases, Scalpels, Bistouries, Tooth Rasps, and various other instruments of interest to the profession, the whole forming a very beautiful display, and attracted considerable attention from the numerous visitors. All the instruments had the usual finish and style peculiar for its excellency and high standard of this excellent firm.

B. KUHN, 36, St. Mary-at-Hill, London.—This firm had an assortment of their new chemicals, such as iodoformegen, an odourless preparation of iodoform with albumen. It is a

light-yellowish powder, soluble in water, and capable of sterilization at 100. It is three times less in weight than iodoform, and is, therefore, more economical than iodoform. It is well adapted as an antiseptic dusting powder for wounds, and promotes healthy granulations, and being free from smell, will go a long way in replacing iodoform. They also showed a new drug, Tannalbin, a new intestinal astringent, and recommended for the treatment of diarrhœa and dysentry in horses and cattle. It was first noticed by Veterinary-surgeon Fieweger Kothen, who successfully employed it in treating a valuable Belgian heavy-bred horse, suffering from chronic intestinal catarrh, with violent purging when the slightest work was attempted. He began with 150 gr. doses, and after a few doses a marked improvement was noticed, the fæces becoming more of a normal consistency while the animal was at work. They also showed Dr. Bengue's Anestile, in cylinder, with coarse spray, and suitable for producing local anæsthesia in horses, over large surfaces when an operation is about to be performed. Anestile is a compound of ethyl and methyl chloride, and is now used by dentists and surgeons for performing painless surgical operations. It is likewise commended for subduing the pain of sciatica, neuralgia, and rheumatism. Their preparations of Chinosol, such as Chinosol Powder, Tablets, Sheep Dip Powder, Soap, etc, were also much noticed. Chinosol Potassium Oxyquinoline, sulphonate, is now much used, and it is claimed to be superior to carbolic acid and corrosive sublimate as a bactericide and antiseptic. It is easily soluble in water, is practically non-toxic, does not coagulate albumen, nor injure the skin, and as an application for washing out the uterus and vagina following parturition is a valuable and safe remedy.

C. J. HUISH, London, had a numerous show of surgical instruments, comprising his patent Horse Mouth Gag, patent Castrator, Tooth Rasps, Tooth Chisels, Pocket Cases, Aseptic Syringes, and various other instruments, the whole forming a very good display.

Cases.

TWO MONSTERS.—CONGENITAL CEREBRAL HERNIA IN THE PIG.

BY O. CHARNOCK BRADLEY, PROFESSOR OF ANATOMY, NEW VETERINARY COLLEGE.

THROUGH the kind offices of Mr. F. B. Pearson, of Chesterfield, I am enabled to give the subjoined description of two

teratological specimens, which have a certain interest for the so-called practical man, as well as the person who is sometimes spoken of somewhat slightingly by the aforesaid practical man, as the theorist.

The *clinical facts* of the case, as supplied by Mr. Pearson, are as follows:—A primiparous sow with considerable difficulty gave birth, ten days after term, to two deformed young, which it will be convenient to refer to as No. 1 and No. 2. Contrary to expectations, these two constituted the entire litter. No. 1 was a male, and survived its birth for a few minutes, breathing and trying to stand, but failing. No. 2, a female, was born dead. No operative measures were necessary

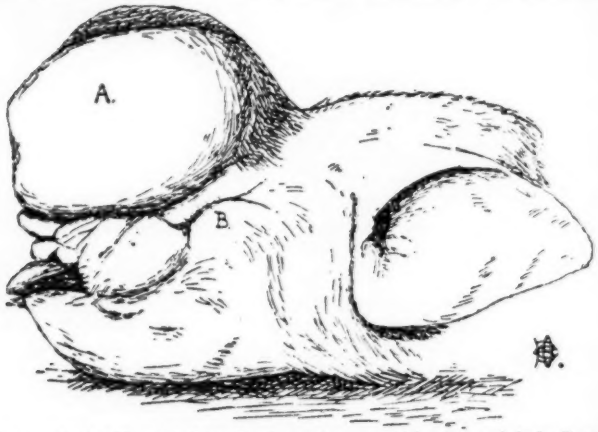

FIG. 1.—Head of No. 1, seen in profile. A, prominence containing the ectopic brain. B, position of left eye.

to effect delivery, but a considerable interval elapsed between the advent of No. 1 and that of No. 2. It is perhaps noteworthy that hæmorrhage, which at one time assumed alarming proportions, occurred during the interval. It only remains to add that the mother has progressed favourably.

The *anatomical examination* was made a few hours after birth. The following were the points revealed:—No. 1 was well developed in all parts, except the head. On the forehead a large dark-red protuberance formed a very conspicuous object. This prominence (Fig. 1A, Fig. 2A A1) was separated into two almost equal parts by a shallow antero-posterior median groove. On palpation it was found to be soft and somewhat fluctuating, giving the impression that both fluid

and solid constituents were present. The eyelids were firmly adherent on both sides, and could only be separated by the knife. The eyelashes were scanty and rudimentary. On cutting through the eyelids the eyeballs were found to be abnormal. No extrinsic muscles could be discovered. The right eyeball was of normal size, but did not possess a lens; its coats were loosely adherent to the walls of the orbit. The

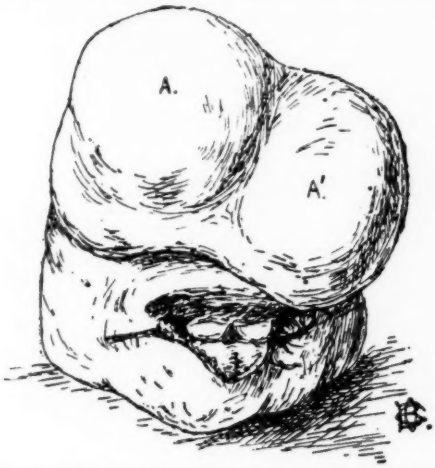

FIG. 2.—Head of No. 1, viewed from the front. A, A 1, prominences containing ectopic brain.

left eyeball was much more rudimentary, being very small and possessed of neither lens, vitreous humour, nor pigment.

On removing the skin from the swelling on the forehead, its double character was clearly shown; two membranous bags were revealed projecting through orifices in the frontal bones. (Fig. 3 C.) These bags were easily separated and the orifices through which they protruded were separated from each other by a narrow bar of bone formed by the two frontals, and containing a part of the interfrontal suture.

Incision through the membranous walls of the sacs allowed of the escape of a quantity (not estimated), of sanious fluid, and disclosed a portion of brain possessing a dark-red colour. It was now evident that the malformation was of the nature of a so-called cerebral hernia.

The intra-cranial part of the brain consisted of norma medulla, pons, cerebellum, corpora quadrigemina, optic

thalami, hypophysis cerebri and crura cerebri, as well as a small portion of both cerebral hemispheres.

The extra-cranial portion was found to consist of the greater part of the two cerebral hemispheres. Each hemisphere was convoluted. No corpus callosum could be discovered, and it is doubtful if an epiphysis cerebri existed; if it did it must have been exceedingly small. The cranial nerves from 5th to 12th inclusive were normal, but no traces could be found of the rest.

Specimen No. 2 was not so large as No. 1, and the swelling on the forehead was smaller and unequal in its two portions, the right part being much smaller than the left. The eyes were more rudimentary than those of No. 1. Dissection

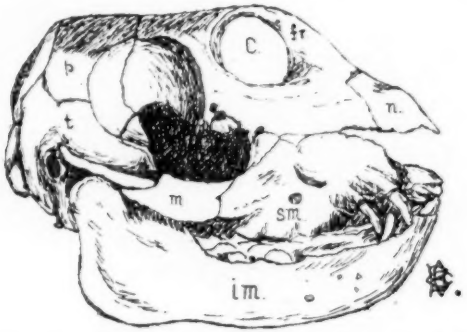

FIG. 3.—Skull of No. 1, viewed from the right side. C_1 opening in frontal bone through which the brain extruded; fr., frontal bone; n., nasal bone; p., parietal bone; t., temporal bone; m., malar bone; s.m., superior maxilla; i.m., inferior maxilla.

brought out, in general terms, the peculiarities of No. 1, but with the following detailed differences. The ectopic part of the brain was small; there were no optic thalami; and the cerebral hemispheres were very rudimentary. (Fig. 4.)

It may be added that in both specimens the soft palate was cleft.

The chief points of interest may be summarised as follows:—

(1.) The rudimentary character of the eyes, and the absence of epiphysis cerebri (pineal body.)

(2.) The absence of optic nerves, the corpora quadrigemina normally developed.

(3.) The absence of the 1st, 3rd, and 4th cranial nerves in addition to the 2nd.

(4.) The fact that the orifices through which the hemispheres protruded werein the middle of the frontal bones, and did not implicate any sutures.

This indicates that the ectopia must have been established very early in fœtal life, at latest before ossification had been to any extent established. I am not aware that the period at which this process commences in this particular bone of

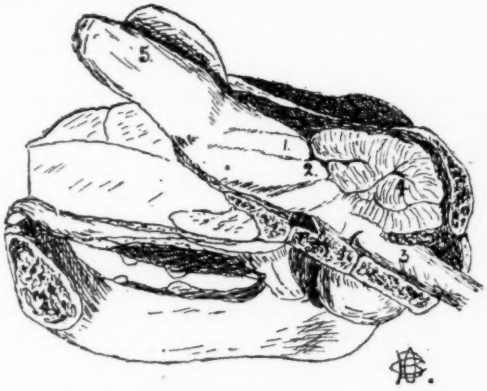

FIG. 4.—Skull of No. 2, hemisected, the brain *in situ*. 1 and 2, corpora quadrigemina, anterior and posterior; 3, medulla oblongata; 4, cerebellum; 5, extruded cerebrum with the membranes removed.

the pig has been determined, but, without doubt, it must be very early.

I cannot at the present time look up any literature on the subject, but I do not remember seeing any case recorded in which the condition of affairs was identical with, or even similar to, that found in the above specimens.

URETHRAL CALCULUS—URETHROTOMY, EXTRACTION, RECOVERY.

BY W. D. BANNATYNE, ESQ., M.C.R.V.S., HADDINGTON.

FOUR-YEAR-OLD cob, recently purchased. The groom has noticed that although nothing abnormal is seen when the animal is idle, yet after exercise red urine is passed. Some is sent to me and I find that it contains blood, and advise that the seller be written to. On July 14th I receive a message to attend at once as the cob is ill. On my arrival I

find the following symptoms presented:—The animal has colic and keeps lying down and rising. When standing he strains violently and postures to micturate, emitting at intervals a dribbling flow of urine. At times when the straining is very violent the rectum is everted. When the recumbent position is assumed, the head is turned towards the flank and the patient groans a good deal.

Tremors are noticed over various parts of the body.

The pulse is hard and 55 to the minute, respiration accelerated, temperature 102. The rectum is examined and found empty. The bladder can be felt very tense, dilated with urine, and extending far forward in the pelvis. Pressure on it induces great straining. On attempting to pass the catheter it is arrested near the ischeal arch by a hard body and cannot be passed. On manipulating the perineum I think that I can detect a calculus. On reporting my fears to the owner in view of the probability of subsequent legal proceedings, and at my suggestion Principal Williams is telegraphed for to meet me in consultation. Professor Williams being away Professor Davis came instead, and he, after examining the cob, exploring the rectum and endeavouring to pass the catheter, agreed with my diagnosis, and advised immediate operation. The nature of the operation, with its attendant risks and also the dangers of delay, were explained to the owner, who at once gave us a free hand.

The animal being cast with ropes, it was placed on its back and supported by bundles of straw. Putting a cloth round the penis to enable its being firmly held, I passed the catheter to the obstruction, and Professor Davis having first well washed the perineum with Jeyes' solution, cut down on to the point of the catheter, slit up the urethra over the calculus, and after some little difficulty owing to its being firmly impacted, extracted a large calculus. This was immediately followed by the flow of an enormous quantity of blood-tinged urine. The parts were carefully washed, and a couple of sutures placed loosely in the skin wound (as much for the purpose of keeping dirt out as anything else), and the animal was allowed to rise. On its getting up a good deal more urine was voided, and the patient seemed to have experienced great relief, the colic had disappeared, and there was little or no straining. There was some hæmorrhage but quite insufficient to cause alarm. Before we left, the cob had his head over the box door, and seemed to be looking for food.

The calculus was greyish in colour and oval-shaped, with flattened sides. Its surface was somewhat rough, and at one

end the outer shell was wanting, and here it presented a very rough appearance, giving one the impression that it had been adherent by this portion to the mucous membrane of the bladder.

The calculus weighed two ounces and two drachms (995 grains), and its measurements were: greatest circumference, 6 inches; round the thickest part, 2½ inches.

An analysis of a small portion showed its composition to be, for the most part, carbonate of lime, with admixture of some phosphate of lime.

The cob has made, so far (July 25th), an uninterrupted recovery.

CANCER OF THE TAIL, WITH SECONDARY DEPOSITS IN THE SPLEEN AND LUNGS.

BY JAS. BELL, ESQ., M.R.C.V.S., CARLISLE.

SUBJECT, a bay cart-horse with black legs, ten years old. In September, 1896, Mr. Carlisle removed a tumour from the horse's tail, telling the owner that the growth would come again, and when it did so, that he was to bring the animal into Carlisle and have it docked.

On July 1st, 1897, the owner brought the horse to Carlisle and requested me to dock it, stating that Mr. Carlisle had ordered it to be done. I operated on the tail, removing about nine inches, with a very large tumour on the amputated portion. At that time I found, close up to the root of the tail, two small tumours about the size of pigeons' eggs. I informed the owner that the docking would keep the horse working again for some time, but that the other tumours would grow fast and would interfere with the animals' usefulness, and perhaps with its health, and if anything happened to the horse, requested to be informed, as I wanted the parts as specimens.

The owner sent me word on April 1st last that the horse had now become almost useless, and that he was going to be destroyed. I therefore went to the place and made a *post-mortem* examination, removed all diseased parts, and sent them to the New Veterinary College.

Beside the tumours on the tail, there were two large growths in the pelvis, and the spleen and lungs had scattered through their substance, and raising up their surfaces, rounded greyish, rather soft, but dry masses, quite isolated from the surrounding pulmonary and splenic tissue, and yet not being furnished with a capsule.

In places they seemed to have set up pleurisy, for there were numerous adhesions.

I thought this a very peculiar case at the time, as I had set

A, Tail ; B, Anus ; C, Pelvic Mass.

the tumours down as melanotic sarcomas, their presence in a bay horse being very uncommon.

Principal Williams now writes to say that he has made a

microscopical examination of the tumour and of the deposits in the lung and spleen, and finds that, instead of being a sarcoma, it is a malignant epithelial tumour, an adenoid cancer.

D Nodules.

In the caudal tumour the external portions of the growth were soft and medullary in character, and here frequent hæmorrhages had taken place, deeper in a more extensive

formation of connective tissue had given a scirrhous condition to the structure. Many of the alveoli contained pigmented cancer cells, giving a colour almost black, to pieces cut out of the tumour.

The primary growth was doubtless that on the tail, and the two large tumours found in the pelvis were due to metastasis by the lymphatics, and probably had their starting point in lymphatic glands.

Sections from the splenic tumours gave beautiful examples of alveoli filled with large rounded epithelial cells characteristic of cancer growths.

PARALYSIS OF THE PAUNCH.—A COW LIVING AND FEEDING FOR TWENTY WEEKS WITHOUT CHEWING THE CUD.

BY H. THOMPSON, ESQ., M.R.C.V.S., ASPATRIA.

THE following case will, I think, be allowed to be unique. On Sunday, the 27th of February last, I was called to a light roan shorthorn heifer due to calve in May.

The cow had been ailing for three or four days prior to my being sent for, and had received three doses of linseed oil and some salts, which had not made much impression on the bowels.

I found the animal standing very quiet and thoughful, no grunt or noise to be heard. Breathing very quick, and left side blown up and full. Pulse quick and small. Temperature 104°. The case seemed very peculiar, and I had her driven out of the byre, which put her about very much. She staggered back to her stall in a very weak, uneven fashion; when tied up she was very much distressed, moaning and gasping for breath. I left four small doses of medicine, composed as follows:—Sulphate of magnesia, 3 ozs.; mixed aromatics, 3 ozs., one of the powders to be given in thin gruel every six hours, with half-a-pint of raw linseed oil to be added to each alternate dose. Ordered all food to be withheld, as the paunch seemed very full; and promised to see her again.

On visiting next day I found her just about the same, only the bowels were responding, and the side had also fallen a little. Temperature 103½°. Left six 2 oz., doses of hyposulphate of soda, to be given every six hours in drinking water, or hay tea, if she would take it; if not, to be horned in. She improved for a few days, when a small quantity of scalded linseed cake, meal, and bran were ordered to be given

three or four times in twenty-four hours. This she seemed to enjoy, and did until the last, without disturbing her in the least. A small quantity of long meadow hay was given, which she ate greedily, but it always caused her to be very uneasy, paddling about in the stall, blown up in the left side, and standing with her feet in the gangway, breathing heavy and quick.

She held her head well up all the time, and had a nice clear eye.

Small doses of laxative and tonic medicine, with nux vomica, were given with an occasional dose of linseed oil when thought necessary, watched and fed carefully, giving food only that seemed to suit her best until she calved, which she did in the beginning of May; after which she was put out to grass, but the flesh gradually wasted off her until she was nothing but skin and bone, although all kinds of food were given her, and from the beginning of her ailment—the 23rd of February—until she was put down on July 21st, she was never once seen to *chew her cud*, although carefully watched. From the peculiar symptoms and the continued elevation of temperature, I was under the impression that their was some abscess or foreign body sticking about the œsophageal pillars, but on making a *post-mortem* I was greatly disappointed, for nothing whatever could be found or seen. All the abdominal and thoracic viscera were quite normal; the liver was rather small but healthy. About a pint only of fluid injestion was found in the third compartment—many folds. In the paunch was found a quantity of old moulded straw, which appeared to have been there for four or five months. From the *post-mortem* I look upon the case as one of paralysis of the walls of the paunch.

Various kinds of medicines were tried at different times, such as carbonate of soda and bismuth, with the vegetable tonics, muriate of ammonia in ½ oz. doses, quinine and sulphuric acid, but nothing appeared to have any beneficial effect.

"ANTI-TETANIN" AS A CURE FOR "TETANUS."

BY ROBT. GIBBS, COUNTY VETERINARY INSPECTOR, TAUNTON.

THE record of a successful case by above treatment will, no doubt, be read with interest by many of your numerous subscribers. In the early part of June, by request of telegram, I attended 20 miles from here to investigate cause of obscure disease in a fine specimen of the English cart-horse (six-year-

old), which had previously been treated by a local quack, for injury to the spine, as the supposed result of running against an apple tree. Repeated blisters from the poll to the tail had been applied, his condition gradually getting worse.

Symptoms presented all the usual indications of "tetanus," rigid neck, elevated tail, protrusion of the haw, straddling gait, with great excitement, but the jaws could be moved sufficiently for masticating soft grass. A strict enquiry disclosed that three weeks before he had picked up a nail in the hind foot, and it was most difficult to convince the owner this was the cause of the symptoms presented. I immediately proceeded to the nearest telegraph station, and wired to Messrs. Willows, Francis & Butler, the well-known veterinary pharmacists, for a couple of doses of anti-toxin, and on the following morning 2 drams was injected into the jugular vein, and within two hours a marked change was observable. He was loosely placed in slings, stable door locked, and left quietly by himself. Recovery was gradual, and twelve days after he was able to be exercised, and is now all right.

A noticeable symptom was very excessive swelling of all four legs five days subsequent to injection, but which was reduced by exhibition of large doses of potassic nitrate in his drinking water.

I may say that, as a matter of science, a man suffering from "lock-jaw" of the most pronounced type was at the same time being treated in the Taunton hospital with intra-cranial injection of anti-toxin, after the Roux method, and made a good recovery; and I think we may say that this hitherto most fatal and distressing malady has been robbed of some of its terrors, and certainly one more achievement to the patient labours of original and scientific research has been obtained.

Editorial.

THE BRITISH MEDICAL ASSOCIATION.

THIS month, instead of offering my own opinions to the readers of the VETERINARY JOURNAL, I submit for their instruction some extracts from the addresses delivered by the President of the British Medical Association and by Professor Fraser, Dean of the Faculty of Medicine in Edinburgh University. It will be noticed that the president urges on medical faculties what I ventured to recommend to the veterinary profession in a recent number of the Journal—the

formation of post graduate classes. It is extremely important, in my opinion, that there should be more than one qualification in our profession. We must have an ordinary degree for the hard-working general practitioner, from whom we must not expect too much profound scientific knowledge, and we ought to have a special degree for specialists, on whom we may impose what onerous conditions we choose. It is gradually becoming apparent that the duties of the medical and veterinary professions will in future be more directed to the prevention than the cure of disease, and chairs of public health, or state medicine, as it begins to be called, will certainly multiply in number and grow in importance in our universities and in our veterinary colleges. Professor Fraser's address, from which I give extracts, but which ought to be read in its entirety and pondered by all veterinarians, is most suggestive. The keynote seems to be not only the solidarity of the human race—which we all profess to believe in—but, so to speak, the solidarity of the whole tribe of the Mammalia. The old saying was, *Fiat experimentum in corpore vili*—let the experiment be made on some cheap body. Nowadays it might run, let the experiment be made on our poor relations, the lower animals, and let the results be utilised for the relief of suffering humanity. Where would the learned professor's theory of the toxic origin of disease be without a knowledge of the constitution of the lower mammals? Now, the lower mammals are, if I may so say, under our special care; let us not betray the sacred trust, and let us be assured that such fidelity will not go unrewarded. In the animal kingdom we have vast possessions, and these must not only be retained, but extended—if necessary, at the point of the sword.

Extracts from the President's Address.

The Medical Act of 1858, which introduced so many improvements working in the lines common to British legislation, did not attempt to start a brand-new mode of admission to the profession, but rather, recognising that many portals already existed, kept these portals open and regulated and modified them as seemed best. Some have advocated the establishment of a single portal, conceiving that thereby a more perfectly equal system might be attained; but I think that the country was wisely guided when it adopted the plan it did, and that for many reasons, of which I shall mention one or two. It was better not to change, because the portals were doing, or were capable of being made to do, good and efficient work; because, while it is essential that every portal must attain a certain minimum standard, it is most desirable that there should be portals of various degrees, some conferring a qualification humbler and more easily attained, others a higher one and more difficult to win; and because I believe that it surpasses the wit of man to

devise a method whereby, for the whole United Kingdom or each of its divisions, a just, equitable, and trustworthy single portal could be organised and worked.

It is our duty to see that examinations are thorough, practical, and proportionate. Thorough, in respect that they cover the whole wide field of our science and art and demand a due knowledge of it. Practical, in that so far as possible the candidates shall be made to show not mere book knowledge, but a practical acquaintance with our art and with the sciences on which it is founded. Proportionate, in respect that no single department shall be allowed undue predominance. It is so natural for an examiner, who in order to be efficient ought also to be a teacher of his subject, to overestimate the importance of his own department and to insist upon a standard which would be unattainable if demanded all round. Such a tendency should be well held in check, each subject being allowed its due place and no more.

* * * * * *

There is no need for me to speak to this audience of what medical education has now become, but I wish that all teachers could manage to make their instruction a training of the powers and mastering of the methods, rather than a loading of the memory with unnecessary facts and transient theories. I wish, also, that it were possible for the universities and schools to make more complete and satisfactory arrangements for post-graduate instruction, so that old students might return to the *alma mater* and pick up in the course of a few weeks instruction as to new methods and new facts whereby they might keep themselves more abreast of modern progress.

Extracts from Professor Fraser's Address.

The widely acting pathogenic influence of poisonous substances has, however, received its most definite and convincing support from the remarkable discoveries in bacteriology which have signalised this period. The gravity and wide prevalence of infective diseases had rendered them a subject of special study from the earliest period. Rhazes in the seventeenth century propounded the view that small-pox was essentially a fermentative disease, and thus originated the doctrine of the fermentative nature of all infectious disease. Previously to this time a theory of the parasitic origin of these diseases had been propounded, and its more enthusiastic supporters gave a reality to their views by such statements as that syphilis was caused by a minute worm, and measles, small-pox, and plague by infusorial animals or invisibly minute insects. With the introduction of the compound microscope the parasitic theory disappeared in this gross form of it, and the fermentative theory was again adopted. It was not, however, until 1861, when Pasteur's great discovery of the nature of butyric fermentation was made public, that the sufficiency of the theory became revealed. His demonstration of the essential part played by minute living structures in the transformations which constitute the process of fermentation at length removed the process from the mysteries which had previously surrounded it, and opened up applications to the pathogenesis of infective diseases which have revolutionised medicine. He pointed out that the organisms of fermentation are similar to those which had already been discovered by Rayer and Davaine in anthrax. He subsequently demonstrated the virulent nature of the microbes of pyæmia and infected gangrene, and, following Koch's work on the cultivation outside of the body of the bacillus of anthrax, he proved also that this bacillus, as well as that of fowl cholera, is able, when grown in suitable media to reproduce itself almost indefinitely, and to retain for many generations its power to cause the symptoms of the original disease when inoculated into animals.

The way was thus opened up for important additions to the knowledge of the etiology of infective diseases, and, in rapid succession, the pathogenic micro-organisms of swine fever, glanders, tubercle, asiatic cholera, septicæmia, erysipelas, pneumonia, and numerous other infective diseases were discovered.

The pathogenic action of the microbes was at first attributed either to mechanical obstruction of the blood vessels, caused by their accumulation in them, which resulted in asphyxia of organs essential to life; or to a biological action which enabled them to appropriate nutritive materials destined for the tissues of the body, and thus to deprive these tissues of life. While, in the case of a few of them, both of these actions may to a slight extent explain their effects, it was subsequently proved that these effects are mainly caused by the poisons which they produce. The poisons are of complex composition; some are alkaloids, and others modified proteids, and others, again, have altogether unknown chemical composition. Many of them are of extreme and almost indefinitely great activity: one milligramme, for instance, of the dry poisonous constituents of tetanus toxin is sufficient to kill a horse, or 600 million times its weight of living tissue; while the hyperthermal effects of tubercle toxin are appreciable when the dry toxin in doses of from one to two-tenths of a milligramme, is injected, representing a strong reaction on 60 trillions of its weight of living human substance. Like other poisons, further, they are capable of producing structural changes, exemplified in the skin eruptions produced by many infectious diseases; the focal necrosis of peripheral nerves produced by the diphtheria poison; the fatty changes and longitudinal fibrillation of the heart muscle produced by this poison, and also by that of anthrax; the cerebro-spinal meningitis produced by the poison of influenza; the anterior cornual and muscle degenerations and the neuritis produced by the poisons of tetanus and diphtheria; the acute parenchymatous and hæmorrhagic nephritis produced by serpents' venom; and in the production of nodules in the lungs, reproducing the characteristics of pulmonary tuberculosis, by dead tubercle bacilli.

The demonstration of the toxic origin of infectious diseases has thus added greatly to the number of diseases which are caused by poisons, and has thereby been largely instrumental in establishing the doctrine of the toxic origin of disease. Unlike the older doctrines of the iatro-chemists, humoralists, and physiologists, this doctrine is supported by an abundance of convincing facts; and it may confidently be anticipated that it will have an endurance which former systems of medicine have not possessed.

Large numbers of disease-producing poisons are thus ever present in the body, created by the normal processes of life, and abundantly produced by departures, even in themselves unimportant, from these processes. Many substances well known to have poisonous properties are intentionally introduced into the body, such as alcohol, tobacco, tea, and opium, while others, such as lead, accidentally find their way into it. The respiratory passages and intestinal canal are crowded with micro-organisms, and they teem in the soil, air, and articles of food. Many of them are producers of virulent poisons, and when they effect a lodgment in the body and find conditions congenial to development, they proliferate with so great rapidity that a single bacterium may in twenty-four hours have multiplied itself into many millions of separate toxin-creating organisms.

In these circumstances, it is of interest to inquire what defence man and other animals can oppose to the disease and death-producing poisons by which they are so constantly endangered? Instances have long been known of the possession of defensive powers against the ordinary poisons, organic and inorganic. Certain animals are by hereditary endowment able to receive with impunity large quantities of poisons, which in minute quantities are

hurtful to other animals, well exemplified in the enormous quantities of belladonna and opium which may be administered without injury to herbivora. It is also notorious that man and other animals may become so habituated to the action of several toxic substances that, in the course of time, doses greatly in excess of the minimum lethal are no longer able to cause death or even much inconvenience. Such acquired powers of defence are produced against arsenic, opium, alcohol, and tobacco, and they are also illustrated in the effects of nitrile ethers.

Explanations for these exceptional powers of defence have been found in the special activity of the processes of elimination, and particularly of elimination by the kidneys, whereby the quantity of poison requisite to cause injury is prevented from being present in the blood; in an unusual power of producing decomposition, probably dependent on special chemical conditions of the blood, by which, for example, herbivorous animals are enabled to convert very large quantities of atropine into relatively inert tropine substances; and on the property which certain organs, and especially the liver, possess of absorbing and retaining toxic substances and of thus preventing their access to the structures on which they act in quantity sufficient to be hurtful. In the case, further, of many organic poisons, absorption and diffusion are impeded by the walls of cells, as in the instance of the slow absorption of strychnine through the stomach walls and of many albuminoid poisons through the intestinal epidermis.

These explanations, however, do not account for all the observed phenomena, and it must in the meantime be assumed that tissues may gradually become accustomed, possibly by exhaustion, to the perturbations produced by substances which modify their normal condition, so that by-and-by a tolerance is induced.

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It had long been known that many infectious diseases conferred upon those who had suffered from them a power of resistance against subsequent attacks of the same disease. After the discovery had been made—and to this I have already alluded—of the microbian origin of infective diseases, it was experimentally shown that if the microbes constituting the cause of any infective disease were inoculated into animals, not only were symptoms of the disease produced, but also that the animal, if it survived, reproduced still further the events of an infectious illness, by acquiring a power of successfully resisting the morbific influence of the same microbes subsequently inoculated. It has likewise been found that each of these events could be reproduced by the filtered, and therefore microbe-free, solution, in which the pathogenic microbes had been cultivated, and thus it was demonstrated that neither the original disease nor the subsequently acquired production was actually due to the microbe, but to toxic substances produced by it.

From this position the further great advance was made that the blood serum of protected animals, itself destitute of poisonous properties, when introduced into non-protected animals, conferred upon them a resisting power which might be so great that even large lethal doses of the virulent micro-organism, and of its toxin, no longer produced death or even symptoms of poisoning.

These remarkable results of experiment deservedly claim much attention. They irrefutably demonstrate that infectious diseases are in their essence poisonings; they throw much light on the mystery, previously shrouded in metaphysical phrases, of the nature of the protection acquired by attacks of infectious disease or conferred by vaccination; and they have not only at once led to valuable therapeutic results, but they indicate further applications, both in the prevention and treatment of disease, exceeding in their possi-

bilities any expectations that had previously been originated by discovery in medical science.

Inquiry into the nature and cause of this protection has thereby been removed from the position of speculation long occupied by it to one in which experimental methods could be pursued with some hope of solving the problems. Many of the results, however, are yet difficult to explain, and considering that new facts bearing upon them are almost daily being obtained, it is not to be expected that altogether satisfactory solutions had been found, or unanimity of opinion obtained. More especially does this apply to the nature of the process whereby protection or immunisation is obtained, to the origin of the protection-producing substances or antitoxins, and to the manner in which they act as curative or therapeutic agents.

As in the case of some of the ordinary poisons, mineral and vegetable, it may be admitted that a portion of the acquired protection is due to the tolerance brought about by the accustoming of the structures of the body to the action of the poison, but this tolerance could not continue for the long periods during which acquired immunity sometimes persists after the infected disease has been recovered from. It may also be admitted that pathogenic micro-organisms absorb and thus remove from the body certain constituents necessary for their growth and vitality, whose removal may, to some slight extent, render the body unsuited for the further growth of these organisms; but, apart from other objections that might be advanced, it is inconceivable that this cause could operate in the bodies of animals which so rapidly change the composition of all their constituent parts, and that therefore the substances which have been removed would not very soon be again restored to the body, and thus render it vulnerable to fresh infections. The doctrine of phagocytosis, enunciated and ably and strenuously supported by Metchnikoff, in which protection is attributed to the power possessed by leucocytes of absorbing and destroying microbes, may to a limited extent account for the destruction of living microbes, but it probably accounts to a greater extent for their disappearance after life is extinct; while it can have but little influence upon the soluble toxins which, since the introduction of the theory of phagocytosis, have been proved to be in most cases the true cause of the disease symptoms.

In the case of ordinary poisons it has been well established that recovery is largely promoted by hastening the removal of the poison from the body, especially by means which it is the province of pharmacology to indicate; and the eliminative treatment which has long been followed in many diseases thus finds in their now definitely established toxic origin a sufficient explanation and justification. Clinical and experimental evidence, not restricted to ordinary poisons, but gained also from the study of the effects of toxins and venoms, has taught us that treatment should also include the adoption of measures for increasing the resistance afforded by the body to toxic and morbific processes. If a dose of venom below the minimum lethal be administered to an animal, and, after all obvious symptoms of poisoning have disappeared, this dose be followed by a second, also considerably below the minimum lethal, the animal may die, although each dose was in itself insufficiently large to cause death. If an animal has been inoculated by a non-lethal quantity of the virus of a recognised disease such as anthrax, and, after recovery has apparently been established, if a non-lethal dose of the virus of another disease be inoculated, death will follow the inoculation of the second dose, although that dose is quite insufficient of itself to produce death in an animal which has not previously been thus treated In both cases the power of resistance has been so weakened by the first and apparently recovered-from administration that a quantity of virus in itself insufficient to cause death now succeeds in doing so. From such examples the explanation is found of the widely prevalent employment of means to increase the

strength or resistance of a patient, of the value of tonics and foods and of fresh air and light, not only in promoting recovery from illness, but also in actually preventing a fatal termination. Expressed in another form, they constitute means for slightly increasing for any given degree of disease the minimum quantity of the disease-producing influence or substance required to produce that degree of disease.

These as well as other methods of treatment that might be referred to do not, however, directly affect the true cause of the malady. Hitherto this cause could be counteracted or opposed only in the instances of the well-known poisons which are dealt with by toxicology, and of a very few diseases such as ague and syphilis, in which the cause was surmised, without being proved, to be a poisonous substance; and in substances fitted to antagonise these poisons by chemical combination, or, though only to a limited extent, to counteract their effects by physiological processes, therapeutics has possessed satisfactory resources. By the demonstration of the production of many diseases by toxins generated by micro-organisms, the opportunities for the application of these principles has been greatly extended. Diseases whose treatment had previously rested on an uncertain basis have now been brought into the range of rational therapeutics; and it has been shown that morbific processes which had already become so definitely established as to display serious symptoms can be entirely arrested, and, above all, that illnesses which would otherwise inevitably terminate in death may be so perfectly controlled that the fatal termination can be prevented and recovery ensured.

A dose considerably above the minimum lethal of the toxin of tetanus is administered to an animal. Several hours after the administration, when symptoms of tetanus had manifested themselves, the antitoxin of tetanus, derived from an animal which had been immunised against the virus, is injected under the skin, and in a short time afterwards the symptoms of the disease disappear and the animal recovers.

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By such results as are exemplified in the experiments that I have described a new era has been originated in practical medicine. Considering how limited were the means—if, indeed, they previously had existed—of actually preventing death when the fatal disease conditions were already present, a special fascination attaches itself to the subject of the antidotal treatment of the disease, the newly created serum therapeutics. It has merely entered the first stages of its development, and has had to contend in its applications to human beings with the difficulties presented by the presence of undiscoverable amounts of disease toxins, diffused by living generators, which are present in the body in unknown quantities and in varying toxic potentialities. The results already obtained are, however, of much value. Diphtheria has had its case mortality reduced from 70 per cent. to 26 per cent., or, according to another estimation, from 40 per cent. to 8 per cent.; hydrophobia has been so far brought under therapeutic control, by means which have not as yet been developed to their full efficiency, that its mortality has shrunk at least from 16 to 1 per cent.; the prognosis of tetanus has been deprived of much of its gloomy forebodings; the cure of pneumonia, of tubercle, of erysipelas, and of septicæmia is on the eve of being realised; a complete demonstration has been obtained of the power of anti-venins to prevent the toxic and lethal effects of venoms; and the experimental data are being surely accumulated for completing the greatest triumph of preventive medicine by the discovery of an antitoxic serum for the cure of smallpox.

These, however, are to be regarded as merely the first fruits—in some cases requiring further maturing by the light of science—of the ample harvest which is ripening. Their acquisition, at the same time, has been sufficient to supply

materials for constructing, in imperfect outline, the doctrine of the toxic origin of disease to which I have ventured to ask your attention. This doctrine has at least the merit of being able to bind together in one harmonious unity the conception of the actual nature or essence of a large number of diseases, including those which most earnestly demand consideration. It supplies a simple and intelligible basis for treatment. Under its directing influence it may confidently be anticipated that Medicine will reach a position of definiteness previously unattainable; and, above all, that the healers of disease will have their resources in this beneficent function rendered more effective and valuable for mankind.

OBITUARY NOTICE.

We regret to announce the death of Veterinary-captain A. J. Haslam, F.R.C.V.S., M.D., C.M., B.A.

This most promising officer was employed under the Foreign Office at Uganda, in the British East African Protectorate, as transport officer. It appears he was endeavouring to overtake a force which had been sent out to punish some Kikuyu villagers, who had been raiding. He had only three armed men with him, and his porters ran away. The natives, seeing how small his party was, attacked him. The occurrence took place just north of Dongo Sabuk.

Veterinary-captain Haslam was seconded from the Army Veterinary Department on 1st June, 1897, and proceeded to Natal for the purpose of selecting and purchasing mules for the Uganda Railway. Whilst there, he was selected to attend a conference respecting the outbreak of rinderpest then raging. On the 5th June last, at the request of the Consul-General at Zanzibar, his services were lent to the East African Protectorate to report on the epidemics among cattle then prevailing, and to take measures for preventing the spread of the disease to Masailand.

Veterinary-captain Haslam was born on 27th Nov., 1863, and joined the army on 4th Feb., 1885. He had only one month's service when he was ordered to Egypt for duty with the Army of Occupation in that country. While there, he made an investigation into the diseases of the camel, and published an article on scabies as affecting the camel. He proceeded from that country to India on 11th March, 1887, and while there, made an investigation into the Indian skin diseases,

and published a report on the skin disease of horses in India, commonly known as prickly heat. He arrived from India on 20th November, 1889, and returned to that country on July 9th, 1891, and served there until 28th November, 1893. He accompanied the expeditionary force to Isazai, in 1892.

Mr. Haslam was educated at the New Veterinary College, Edinburgh, and whilst there obtained the following medals:—Chemistry and Materia Medica (1882), Physiology and Anatomy (1883), Horse and Cattle Pathology (1884). He also obtained the Principal's £20 and Gold Medal in 1883, and the third Fitzwygram in 1884. Mr. Haslam graduated in April, 1884, and took the degree of F.R.C.V.S. in May, 1890.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

(*Continued from page* 113.)

Special Meeting.

At the conclusion of the quarterly meeting of council, an adjourned special meeting was held, for the purpose of considering a motion standing in Mr. Barrett's name. Present—Mr. A. W. Mason, President in the chair; Professors Edgar, McCall, McFadyean, Penberthy, W. O. Williams, Vet.-Col. Duck, Messrs. Barrett, Beddard, Bower, Dollar, Elphick, Hartley, Mulvey, Simpson, Wartnaby, Wragg, Thatcher (solicitor), and Hill (secretary).

On the motion of Mr. Mulvey, the minutes of the special meeting held on April 5th were received and adopted.

Motion by Mr. Barrett.

Mr. Barrett: I think this is the third occasion on which I have risen to propose my motion. On the first occasion I was interrupted by the intervention of Professor McFadyean. I am not complaining of that intervention at all, because he was perfectly justified, as we afterwards discovered by an examination of our bye-laws. But what most disappointed me on that occasion was this. I felt at once from the view he took and from the course he pursued, that he was opposed to me in regard to this matter. That I extremely regret, because it seems to me that every teacher of the schools should support a motion of this kind; and especially do I think that support should be received from the principals of the various teaching establishments. I think it will be agreed also that my motion is of some importance. I do not propose to detain you very long; I shall content myself with placing before you a few

reasons which have induced me to bring this motion forward. The motion reads as follows :—

> That the council may relieve a student or intended student of one or more of the subjects of the professional examination, provided the council is satisfied that the student or intended student has received an adequate training and passed a sufficient examination in the subject or subjects in respect of which relief is sought.

I was induced to draft this motion on account of the circumstances which occurred at a meeting of the Examination Committee on the 30th September last. At that meeting a letter was laid before us from a gentleman who possessed high qualifications, who was not a member of our profession, but who was desirous of entering our ranks. I think I shall not be contradicted when I say that there was not one person present sufficiently conversant with the bye-laws to at once give a reply to that letter. Upon an examination of the bye-laws we discovered, much to our regret, that we were unable to afford that gentleman relief in respect of any of the subjects in which he had been trained and in which he had passed an examinatiod. There was a feeling in that room that a bye-law of that kind ought to have been in existence, and it is for that reason that I have thought fit to bring this motion before you and ask you to pass a bye-law to meet those wishes. The gentleman, whose name I purposely withheld, was at once able to give us the greatest satisfaction that he had passed a high examination—an examination higher than that which we are called upon to pass—and who was at once able to show us that the scientific training which he had received was in excess of that which is imparted to the veterinary student. That being so, I submit we act unwisely if we do not promote a bye-law to meet the circumstances of a case of this kind. Here is a man who admittedly is more highly trained than some of us are—at any rate, who is more highly trained than the veterinary student, and yet we compel him, if he should desire to enter our profession, to sit on the benches at the different schools and listen to lectures with which he is perfectly familiar, and submit him to an examination which to him would be ludicrous, inasmuch as his knowledge may be as extensive, or even more so, than that of the examiner. That is one reason which has much influenced me to ask you to pass a man of this kind. My second reason is this, that if a bye-law of this kind were passed we should encourage highly trained men to enter the ranks of our profession. My contention is that the effect of that would be that our profession would be elevated by the admission of these men. I believe if we could only get highly trained surgeons or physicians who were desirous of entering our ranks that it would help us, that we on our part would be elevated, and that benefit would accrue to us as a body corporate. My third reason is that a scheme of this kind has been adopted more liberally by another profession, and that profession has thought fit to go much further than I wish you to go to-day. I refer, of course, to the profession of the law. I think I am right in saying that a solicitor who has been in practice for 5 years may become a barrister on passing the final examination only. He is not required to be submitted to any preliminary examination, neither of an educational nor of a legal character. He has to pay the requisite fees, pass the final, and would thereupon become a member of the Bar. Again, a barrister desirous of becoming a solicitor is called upon merely to pass the final examination in law, to be disrobed, to pay the necessary fees, and he thereupon can practice as a solicitor. On the last occasion Professor Edgar put it to me that the two branches of the legal profession were practically one. That is a proposition which I deny emphatically. The two branches of the legal profession are as wide apart as the two branches of medicine, I refer, of course, to human and veterinary medicine ; and therefore I submit that this argument as proceeding from Professor Edgar ought not to prevail

upon you. A solicitor suddenly called upon to do the work of an advocate would be just as lost in that special work as a veterinary surgeon who was suddenly called upon to conduct a medical practice. On the other hand, an advocate placed in the office of a solicitor would be as lost as a medical man would be if called upon to doctor one of our equine patients. Therefore I ask you not to be influenced by the argument that the two branches of the law are more closely allied than those of medicine, viz., human and equine. Another member of council on the last occasion informed me that he regarded my motion as an innovation. I am quite prepared to admit it is an innovation, but, if it be a wise one, you should accept it. I fail to see how you can be afraid of a man of this character. You have introduced many innovations and accepted them since I have been a member of this council. The four years' course was an innovation of a serious character ; the institution of higher education was an innovation. Why, therefore, any of us should object to this because it is an innovation is, to my mind, unintelligible. I ask you to say that there is nothing serious in this motion—that it is one which is properly safeguarded, in your opinion, and that it can tend only to the elevation of the profession of which we are all members. And then another member of council regarded it as a precedent of a dangerous character. But you will observe that I have clothed the motion in careful language. I foresaw that arguments of this kind might be brought against me, and I therefore purposely used language which I deemed would sufficiently safeguard the profession. You will notice that I have said that the council "may" relieve ; I have not said that the council "shall" relieve, and therefore in any case it is for you to decide whether any particular person shall or shall not receive relief. And then I have further safeguarded the powers which I have sought to give you by saying you shall only do that provided the council is satisfied "that the student, or intended student, has received an adequate training and passed a sufficient examination," and, therefore, if you interpret this motion as it should be interpreted, and if you act upon it with the wisdom with which I think you will act upon it, you will in no case be entitled to give relief unless the two conditions have been fulfilled. That is to say, the student must have received the adequate training (it will be in your power to say whether that training was adequate or not) and he must further have passed a sufficient examination. It will rest with you to say whether any particular examination is sufficient or not. Therefore I submit that this is a precedent which is undoubtedly not of a dangerous character. To my mind it can only become dangerous if you seek to give effect to it with biased minds. I do not believe there is a member of this council, nor do I believe that a member will be elected who will fail to give this interpretation which it deserves and warrants at your hands. To my mind it can only become dangerous if you approach it with partial minds, that is to say, if you lose your representative character and approach it with a judgment which is biased by reason of your own personal motives and actions. I do not think you will do that, and I ask you not to fear the language which I have used, and to be prepared to accept the powers which sooner or later must be thrust upon you, and which you as elected representatives of this profession must be prepared to bear. I am not going to detain you any longer, there is no necessity for me to do that. You are intelligent men. I know you have carefully read the motion. Whether you are opposed to me or not I know you will give the matter the attention which it deserves. There may be some opposition to-day, I shall be surprised if there is much. It is a progressive matter I know. You must progress, you cannot stand still. I only ask you to seriously consider it. The only object I have in view is to attempt by some means to raise the profession of which I am a member. Subject to that I leave it in your hands.

Professor W. O. WILLIAMS: I rise with much pleasure to second the proposition of Mr. Barrett, that we consider and deem it necessary to pass the motion. I do this purely from a selfish point of view. I say that unless very great precautions are taken, that the only men in connection with veterinary education will be the principals of the colleges. I am afraid that this motion is too broad, and that men may obtain all their education at other places than at veterinary schools, and that ultimately it will only be necessary for a man to satisfy the Council of the Royal College of Veterinary Surgeons that he has obtained his education, not at the veterinary school, and then he will only have formally to apply to a principal, and that principal will give him a certificate. Then the proposition will be that if this is to be allowed to run on, nobody will be required at the Royal College of Veterinary Surgeons but the president, and he will just simply sign diplomas, and then men will have forgotten that there is such a body as the veterinary body. They will call themselves bachelor of science and of veterinary hygiene, or bachelor of veterinary hygiene and agriculture. That is the only thing I fear as regards Mr. Barrett's motion. I support it because I consider it is a great hardship that many men cannot enter the profession, but in supporting it, I must say that we must be very particular indeed not to let the bounds be too wide, but limit them very distinctly, so that not every man with a certificate could come and get a diploma from us.

Professor EDGAR: I think that I can agree with Mr. Barrett very much on one point which he made in his speech, and that was the opening remark, that this was a very important matter. I do not think any more important subject has been brought before the council, although we may be divided rather to-day. I do not think any more important subject in the bearings upon the future of the profession has ever been brought forward. I must, before I make any criticisms on the subject, compliment Mr. Barrett upon his consistency in bringing forward this motion—I mean consistency with the attitude he has previously adopted with regard to education concerning our profession. You will remember not long ago a very warm controversy waxed over the dual certificates, and Mr. Barrett ranged himself on the side of those who sought to substantiate the advisability of continuing the dual certificate. This dishonourable, retrograde, disintegrating motion is altogether on a par with the attitude which he took up on that occasion, and is perfectly consistent. Now I will just, for brevity's sake, resolve this matter into a question of profit and loss, and ask you what Mr. Barrett has shown us that the profession will gain by the change he advises, or what any other member of council can show that the profession will gain by the change he advocates? We must answer, as he has, in silence, and say nothing. Now, I may point out to you on the other side a most unfortunate thing which we lose, absolute control over a student's professional education, which the college now possesses and for which it had to fight some years, and thus be compelled to accept the guarantee of some other body as to the student's fitness in a given section for his work. We are a young profession, but we are probably the only one who can point to one portal into the citadel; and yet, if you please, a member of our own body is willing to sacrifice the right for which we have been contending all these years. Now we have obtained it he is willing to throw to the winds our position of advantage which the law gives us at the present moment of educating our own men. Then he says the arguments are on his side. What are they? What do they amount to when you have summed them all up? He has chosen some unfortunate individual who, according to his own showing, it would be no hardship to make him submit himself to our trivial examinations; he is a man of such eminence and acquirements that he could enter a veterinary school and present himself for examination before our examiners without the slightest compunction.

Mr. BARRETT: Attendances at lectures!

Professor EDGAR: What hardship would there be to such a man as that? He could attend the lectures; he could put in a certain number of attendances and be all right; the man is eminently fitted for the position without our demanding of him that which we have a right to demand. Mr. Barrett has told us that this would necessitate an alteration of five bye-laws if you were to pass it, and Professor Williams, strangely enough, foresees a wolf in the distance, although he has not courage to come back to the dangerous and subtle reasoning that has been set before him. He sees a possible loss of fees, and so must everyone, for the next step will be that directly the council has it in its power to make this relaxation we shall see New Zealanders, Canadians, and men from the United States coming along with their partial education, and we shall have all kinds of questions forced upon the council upon which we shall have to adjudicate whether we will or not. Now we can say, "The door is closed, we have no right or power to admit or reason with you at all." But having once opened the door the danger lies before us and we shall have to meet it. But where a man has the right to come and claim admittance to our examinations without study or without having gone up for his first, second, third, or fourth examination, without attendance at a veterinary school, the next thing he will come and claim will be exemption from veterinary fees, and then that will touch the teachers' pockets. You will have a man who gets all his education at the London University, or some other teaching institution, coming up to Professor McFadyean and saying, "I want to present myself to the Royal College of Veterinary Surgeons, will you endorse my certificate?" Professor McFadyean will say, "No, I shall not do it, because you have not been educated here." And then the secretary will come and say, "I am bound to accept this." We shall be giving away our birthright and we shall positively have to exist as an examining body, with all our expenses, to give a man his diploma. I am now carrying out the argument which Mr. Barrett has deduced.

Mr. BARRETT: That is a mere assumption.

Professor EDGAR: It is no assumption; I am carrying it out *in extenso*. Your argument that it is a hardship is pure assumption, because you have produced one imaginary individual amongst all the hundreds who say it is no hardship at all. The principle underlying Mr. Barrett's reasoning is that a man may ultimately come and ask the president to sign his diploma although we never get a single penny for him. We shall find that we exist for nothing except the benefit of the public. Mr. Barrett says that this would be an encouragement to educated men to enter the profession. I was going to say that that was abject nonsense, but I will not use such a hard term against it; but any gentleman of education who values the advantages which the veterinary profession gives should be willing to submit himself to the conditions under which he can have those advantages conferred upon him legally Do the medical profession make any such concessions to us? You have had dust thrown in your eyes about the legal profession. Leave lawyers to take care of themselves, they have the framing and making of the laws, and we have to submit to them. We have committed to us as members of this council a trust for which our predecessors have worked hard, and we shall be traitors to the profession if we throw away that which is in our hands now, viz., the absolute power of entire management and the whole professional education of veterinary surgeons. If you give that power away you will not be worthy of the name of councilmen.

Professor MCFADYEAN: In listening to the very fascinating example of forensic eloquence to which Mr. Barrett recently treated us, I could not but help admiring the judicious use which he made of one of the most powerful

arguments that could be addressed to anyone—that is, the use of flattery. He praised our intelligence; he expressed himself as feeling abjectly depressed because on a former occasion Professor Edgar and myself had not seen this matter exactly as he sees it. Notwithstanding that, I venture to say that Mr. Barrett has not persuaded this council that it would be worth while to make this motion one of our bye-laws; and in a very few words I shall state my reasons for opposing the proposal. In the first place, I should like to point out that it would give rise to a good deal of trouble. Goodness knows there appears to be difficulty enough in going through the business that already comes before us, but just picture what an addition this would probably give to our already overburdened programme. There would probably never be a meeting of council at which we should not have to carefully adjudicate upon the claims of some two or three candidates to be exempted from one or other examination. Mr. Barrett has himself insisted upon the responsibility of our considering very carefully whether any claim made to us should be granted or not. I should think we probably would require to spend an hour or two every council meeting in considering this item of business alone. Then the next point is this, I do not think it at all worth the trouble. Notwithstanding the great care with which Mr. Barrett says he drafted this notice of motion, it is not quite clear to me exactly what he means. I should like to know whether Mr. Barrett proposes to exempt the applicant from attendances at college as well as from the examination of particular subjects. Perhaps Mr. Barrett would not mind answering it now.

Mr. BARRETT: My motion deals with the question as brought before the Royal College of Veterinary Surgeons. I have nothing to do with the veterinary schools.

Professor MCFADYEAN: Mr. Barrett understands better than that. At the present time a student cannot be examined, say in the A examination, until he has attended a full session, and then he must be examined in these subjects. What I want to know is, do you propose to exempt candidates in future from some or all of these subjects, or do you also propose to exempt the candidate entirely from his attendance in order to qualify for the examination? Which is it?

Mr. BARRETT: Do you want me to answer now? I have said nothing as to attendance at the hospitals or schools. What I ask is that the council shall have power on any particular occasion to give a man relief in respect of certain subjects after being satisfied that the training is adequate and the examination passed in these subjects is a sufficient one.

Professor MCFADYEAN: The point is this: Under our existing regulations a student cannot be exempt in chemistry until he has attended a full session. Do you propose to exempt certain candidates?

Mr. BARRETT: I propose to give the council power to declare that he shall have relief.

Professer MCFADYEAN: At last I appear to have got a reply to the question. Mr. Barrett invites a variety of nondescript persons to apply to us to exempt them from examination in some of the specified subjects and to exempt them from attendance in a valid college.

Mr. BARRETT: Subject to certain conditions having been complied with.

Professor MCFADYEAN: Yes—subject to certain conditions, but that I think adds very greatly to the gravity of the proposal. I think if there had been any malingering feeling that we might pass this with certain safeguards that that feeling is likely to be dispelled.

Mr. BARRETT: Is it an adequate safeguard.

Professor MCFADYEAN: I would like to know what previous training Mr. Barrett thinks would justify us in exempting a student from the whole of Class A examination.

Mr. BARRETT: I referred to "subjects," not examination.

Professor MCFADYEAN: I will not continue my argument, as I understand that a number of those here are anxious to catch trains. I wish I was as sure of many things as I am that the majority of those present will vote against Mr. Barrett's motion.

Mr. BARRETT: That is a very weak defence.

Mr. Barrett's motion was then put and lost.

On the requisition of Mr. SIMPSON, the names were taken down, and the voting was found to be as follows:—

For the motion: Mr. Barrett and Mr. Dollar.

Against: Mr. Wragg, Professor McFadyean, Mr. Mulvey, Mr. Hartley, Vet.-Colonel Duck, Mr. Bower, Mr. Simpson, Mr. Elphick, Professor Edgar, Professor M'Call, Mr. Beddard, and Professor Penberthy.

On the motion of Mr. SIMPSON, seconded by Mr. ELPHICK, a vote of thanks was passed to the chairman for his conduct in the chair.

THE BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

THE summer meeting was held on Friday, July 29th, at the Derwentwater Hotel, Portinscale, Keswick.

The venerable president, Mr. Joseph Carlisle, M.R.C.V.S., Carlisle, presided, with the following gentlemen present:—Messrs. F. W. Garnett, Windermere; John Steel, Wigton; John Armstrong, Penrith; Joseph Pears, Penrith; Jacob Howe, Keswick; Joseph Hewson, Carlisle; James Lindsay, Dumfries; Professor Davis, Edinburgh; Hy. Thompson, Aspatria, honorary secretary and treasurer; and as a visitor, Mr. J. Smith Hill, Principal of the Agricultural College, Aspatria.

The SECRETARY read the notice convening the meeting, after which the minutes of the previous meeting, also those of a special one, were, on the motion of Mr. ARMSTRONG, seconded by Mr. HEWSON, taken as read and signed by the chairman.

Mr. Robinson, M.R.C.V.S., dairy inspector, Carlisle, and Mr. Caldwell, M.R.C.V.S., Brampton, were unanimously elected members of the Society.

Mr. THOMPSON, Aspatria, nominated Mr. Joseph Lyons, M.R.C.V.S., Aspatria; and Mr. JOHN ARMSTRONG, Penrith, nominated Mr. Arthur Gibson, M.R.C.V.S., Penrith, as members of the society.

Mr. THOMPSON exhibited two forms of india-rubber teat syphons for the irrigation of the mammary glands, after Schmidt's mode of treatment for milk fever, and from the trials he had made he thought great benefit would be derived by injecting the mammary gland. He had held the idea for a quarter of a century that the case of parturient apoplexy in the cow commenced in the udder, and was due to the sudden removal of the pressure by the withdrawal of all the milk at once immediately the cow calved, causing paralysis of the milk cells, and a retention of the elements or materials which entered into the composition of the colostrum, and should be eliminated from the body by the action of the mammary gland, but which, by the collapse of that organ were retained and thrown back on the system, producing a toxic effect upon the animal. He was pleased to note that this view had been embraced by several other members of the profession. In January, 1877, he wrote his first article on the subject, which appeared in an agricultural paper, the *Practical Farmer*, published in Dublin by Messrs. Golding and Co., Ltd. He is now trying Schmidt's treatment. He dissolved two drachms iodide of potass. in one quart of warm water, and injected half-a-pint into each teat; the effect was astonishing and soon apparent, and from the reports that have appeared in the *Veterinary Record*, he thought the treatment would be generally acted upon.

Mr. JNO. ARMSTRONG exhibited a specimen of a fractured os suffraginis which, to use a common phrase, was broken all to pieces.

Professor DAVIS, by the aid of five microscopes, showed a large number of microscopic sections of both healthy and morbid structures of various parts of the body, and he explained the particulars of each section as they were exhibited. The room was then darkened and the professor gave a limelight exhibition of the various micro-organisms. Among them were streptococci in the omentum, streptococci in the fibrinous exudate on the serous surface of the bowel, both from peritonitis after castration; anthrax in the lung of the ox; tubercle bacilli in the lung of the horse from a case of acute pulmonary tuberculosis, an account of which, from the pen of the secretary, appears in the *Veterinary Journal* for July; also tubercle bacilli in the kidney of the cat and lung of the ox; actinomycosis, glanders, tetanus, black-quarter, etc.

Professor DAVIS then opened the discussion on the President's paper read at the last meeting.

Mr. President and gentlemen,—I willingly accepted the invitation of your energetic and kindly secretary to attend this meeting and take part in the discussion of the excellent paper read by your venerable president, because, in the first place, I was glad of an opportunity of revisiting this lovely country side, this paradise of honey-mooners, and of wandering among these dales,

> By the hanging mountains,
> And by the falling fountains.

Another reason lay in the fact that a great part of the venerable president's interesting paper was taken up with a consideration of the past and present way of regarding contagious diseases; practically, too, the whole of the discussion that followed centred round this subject, and in the paper and in the discussion I detected a lack of fervour in the belief in germs, and I thought that an interesting hour might be spent if those strong for germs were reinforced a little. You know that some good Christians go to church and say their *credo*, give a quiet acquiescence, but don't act as if their belief were a certainty—are not ready to fight for it like the early Christians of other days, who

> Proved their doctrine orthodox
> By apostolic blows and knocks.

In the same way many of us give a smiling assent to the statements about the potency of germs as disease producers, but in every-day work leave them out of consideration.

I remember a question being asked at one of the written examinations. It was, "What are the causes of mammitis?" When the men returned from the examination room and showed me the questions, I asked a group of them how they had answered that question. They gave me as causes, over-stocking, over-feeding, lying on cold stones, and many more conditions that are accused of producing mammitis; but when I asked if no one had mentioned germs, they smiled and said, "No, they had not thought of germs." They probably had left out the principal cause.

We mean by an infectious disease a pathological condition brought about by the action of minute living organisms which have gained access to the body. Some of these infectious agents are capable of leaving the patient and entering the body of healthy animals and setting up the same disease in them. When the organism has this power, the disease is called a contagious one. So that while all infectious diseases are produced by germs, contagious diseases are a class of infectious diseases in which the germ is so virulent that it can spread to neighbouring healthy animals and infect them. Peri-

tonitis is an example of an infectious disease, and anthrax an example of the division of infectious diseases which are called contagious diseases. Ordinary pneumonia is infectious, pleuro-pneumonia is contagious.

The notion that low forms of organisms could invade the body and set up disease is by no means new. As far back as the time of the Roman writers the suggestion was made that malaria was due to a living contagium. But it was only after the invention of the microscope, and the discovery of the infusoria that may be seen darting across the field when a drop of certain waters is placed under the objective, that the theory received corroboration and was more widely applied. The bacillus of anthrax was seen fifty years ago, but as this, like all other pathogenic germs, is found associated with many others, it was only after the introduction of proper methods of sterilization and cultivation (solid culture media and plate culture) that it was possible to separate it from others, get it in pure culture outside the body, and produce anthrax by inoculation of the pure culture. Koch said that before a disease could be acknowledged to be due to a specific germ, that germ must always be found in the patient—it must be isolated and obtained in pure culture outside the body, and this pure culture must in turn produce the same disease. These requirements have been fulfilled in the case of a number of infectious diseases, of these anthrax and tuberculosis are examples.

Let us take a few examples of diseased conditions that one frequently meets with in practice that owe their causation to germs. I have given peritonitis as an example of an infectious disease; it is frequently seen after castration, and used to be put down to the animal having caught a chill. I show you here a section of the enormously-thickened omentum of a colt that died six days after castration. The section has been stained by Gram's method, and you will observe that it contains myriads of thin, curved bodies, stained blue. In some places they are in depôts, and one can see nothing but germs—not a leucocyte, etc., or a bit of fibrin, or any other structure. They appear, in fact, to be in pure culture. I also show you a section of bowel from another case of fatal peritonitis following castration; and here the organisms are confined to the thickened serous membrane. I can tell you the history of this case. Two colts were castrated by a practitioner on the same morning, and both died from peritonitis a few days afterwards, and this is a section of the bowel of one of them. I cannot tell what antiseptic precautions were observed; they were, however, evidently inefficient. I don't know whether you have read the Collins' case. Sir John Williams was the principal medical expert for the prosecution, and in his cross-examination he stated that, in his opinion, peritonitis was never due to chill or to any other cause than germs.

Synovitis and Arthritis. — One may make, under proper antiseptic conditions, a puncture of a thoro'pin or an enlarged tendon sheath and get no trace of inflammation, but what often follows a wound of these structures by a contaminated instrument? I remember being called to a beautiful cart mare, the property of a poor man. His boy in doing up the bed in the morning had accidentally wounded the carpal sheath with a fork. What was the result here? Family doctoring, fomentations, and rubbing oils for some days, and then a message for me. The mare died from septic absorption, and there was found *post-mortem* necrosis of the tendons passing at the back of the knee.

Septic Pleurisy.—Paracentesis thoracis is often enough performed with no bad results—if commonly with no particularly good ones, but I saw a horse die from septic pleurisy caused, like the case related above, by a small puncture with a pitchfork. Why should one get an intense inflammatory process when these serous membranes are punctured by a pitchfork, and little or

no disturbance when a clean instrument is used? The explanation is that germs are introduced by one and not by the other.

Lymphangitis.—I expect to bring a hornet's nest about my ears when I ask if it is possible that ordinary lymphangitis is due to germs. A lymphangitis is quite commonly seen spreading from wounds—a traumatic lymphangitis—and it often ends by necrosis of pieces of skin and by abscess formation, which are undoubtedly due to germs.

Can a localised lymphangitis ever develop into one of the sort called Monday morning disease? I think it can.

A short time ago I saw a mare lame in the near hind leg. She had marks of buffing on the fetlock, and was sore there. Ordinary cooling applications were used. Thirty-six hours afterwards she developed an old-fashioned "weed," which yielded to ordinary treatment; an abscess formed at the fetlock, however. What sort of animals does one commonly get weed in? Often they are horses with itchy legs. What is easier than for a horse rubbing one hind leg with the quarter of the opposite foot to inflict an imperceptible wound from the clinches which may be enough to inoculate the limb?

Metroperitonitis, seen often in the cow and mare, and especially frequent in the sheep after parturition, is always due to infection, and is sometimes epizootic.

Mammitis is also a germ disease. I have produced it in an heifer by introducing a dirty syphon to remove a supposed obstruction in the teat.

All the pathological conditions about which I have spoken are probably due to the pus-forming organisms, staphylococcus and streptococcus, which I have shown you on the screen and under the microscope. Of the contagious diseases which have been proved to be due to a specific organism by (1) the constant presence of the specific germ; (2) its cultivation in a state of purity; (3) the production of the same disease by the inoculation of this pure culture; I can merely mention anthrax, actinomycosis, black quarter, glanders, swine fever, tetanus, tuberculosis; but I must say something about the last disease.

Of all contagious diseases, tubercle is the one about the etiology of which we ought to have least doubt. What proof have we that the disease is due to a living contagion? It is needless to recall the innumerable experiments that from Villemain's time to ours have placed it beyond a shadow of doubt that by ingestion, inhalation, intravenous, intraperitoneal and subcutaneous injection, with material from a tubercular lesion, the disease may infallibly be transmitted from man to animals, and from one animal to another.

Apart from the experimental production of the disease by tubercle material, are there any facts in our every-day experience of tuberculosis that lend support to the view that it is a contagious disease? An old farmer, a very observant man, told me a good many years ago that he thought consumption in cattle was catching. He said that he had often noticed that if two cattle were tied up to fatten, if one was consumptive, it almost certainly affected its neighbour. And I have repeatedly seen instances of this myself. A remarkable case came within my own knowledge in the human subject. A healthy girl, none of whose family were known to be tuberculous, married a consumptive man, who died two years after their marriage. The widow married a second time, and I knew her second husband well, and knew him to be a wonderfully active, healthy fellow. Within three years both were dead of phthisis. It is difficult to explain these facts on any other supposition than that the first husband infected the wife, and she infected the second husband.

Nocard's case seems to prove the ability of milk from a tubercular udder to give abdominal tubercle to human beings. Here a young girl, the

daughter of a doctor, used frequently to drink fresh milk at her father's farm, and she, having died of abdominal tuberculosis, three cows were found on examination to have tuberculosis of the udder. That the disease is contagious is in fact beyond cavil.

But besides this the bacillus which you can see in these preparations can be readily separated from any others that may be associated with it and may be obtained in a condition of purity A trace of this pure culture placed in the subcutaneous tissue of a guinea-pig will, in the course of a few weeks, cause the death of the animal, and a *post-mortem* shows that death has been due to abdominal tuberculosis.

I saw in the pathological museums formed for the British Medical Association's meeting in Edinburgh some beautiful dissections of guinea-pigs so treated, and sent by Dr. Woodhead. The spleen was completely studded over with tubercules. Intavenous injection of this pure culture overcomes even the great natural immunity possessed by the sheep, and it dies of generalised tubercle. Surely, then, we have proof that tuberculosis is a contagious disease, and that its cause is the tubercle bacillus.

Mr. Thompson stated that in some cases of tuberculosis no bacilli are found. That is quite true ; but even then inoculation of guinea-pigs with material from the lesion will set up the disease, and the bacilli will then be obtained readily enough. He also stated that tuberculosis might arise from inflammation. Well, inflammation is a term of very wide significance indeed. Most diseases have at one time or another been set down to inflammation. Besides, you must remember that many germs are themselves capable of giving rise to all the phenomena of inflammation. Shakespeare uses the term inflammation. Falstaff, in describing teetotalers, says that they are mostly fools and cowards, as many of us might be also (he adds) but for *inflammation.* If this is the sort of inflammation Mr. Thompson alludes to, he is also wrong, for Professor Hamilton says that big beer drinkers never take tubercle.

With regard to the part heredity plays in the etiology of tubercle, I would like to say that I think a scientific society like this incurs a grave responsibility if it emits the doctrine that tubercle is spread to any extent by heredity, because it will tend to slacken the efforts of those who have the disease among their animals, and who are endeavouring by isolation and by other means to prevent its spread by contagion. If you persuade people that tuberculosis is hereditary, you manifestly destroy the hope of rearing the offspring of tuberculous parents, and this, in my opinion, you are in no way justified in doing.

The PRESIDENT then invited discussion, saying he personally thanked Professor Davis for his kindness in coming so far and giving such a splendid demonstration. He himself had enjoyed it very much, but was very sorry indeed to see so few of the members present ; he could not understand why they took so little interest in the most important matter relating to the profession.

Respecting the Professor's remarks on tuberculosis, he (the speaker) being one of the old school, and from long observation still held that consumption or tuberculosis had a great deal of hereditary tendency about it. He must admit that he was a little bit astonished to hear Professor Davis say that weed—lymphangitis—was due to micro-organisms. It might be so ; but could the professor say in what way mud fever was associated with weed? He would ask Mr. Garnett to make a few remarks on the Professor's address.

Mr. GARNETT said we had heard one side of the question, and he knew there were parties present that held somewhat different views ; he would like to hear some remarks on the other side, and with the President's kind permission he would ask Mr. Thompson to speak on the subjects.

Mr. THOMPSON : Now, gentlemen, you all know my views on the matter of

germic or specific diseases; that is, I hold that there are two conditions necessary. First, we must have suitable soil for the favourable acceptance, development, and growth of the germ, and this I look upon as the most important part; that the tissues of the body are by some means or other—hereditary if you like—rendered prone to favour the invasion and devevelopment of the germ, and I am pleased to note that I am not alone on this point, as it had been frequently alleged, but the following extract from the July number of *The Public Health Journal* will prove the contrary. In a contribution by Dr. K. F. Andivord on the Etiology of Tuberculosis, he says, "The phthisis mortality, therefore, varying so little from year to year in different districts, can hardly be attributed solely to infection, but must be greatly dependent upon something locally invariable. And this, in the author's opinion, must be the soil to which the bacilli gain access. This is the inherited or acquired power of resistance which is present in varying degrees, not only in the populations of different places, but also in different families and in different members of a family. This tendency to phthisis, then, seems to be the result of hereditary influences on the one side, and the conditions of life, hygiene, and climate on the other." This to him was very satisfactory. As for the germs or bacilli, immediately a microscopist discovered the rods or spores, cried he out, "Oh, it is a germic disease; I have found the bacillus," and seems quite content; but the germ or seed was only one condition, the seed-bed and surroundings were of more importance, which was well exemplified in the agricultural world; this year in particular, although clover and turnip seeds had been sown in large areas, in numerous instances they had failed to germinate and grow because the soil was not resplendent with every necessary. The same, in his opinion, held good in all germic diseases. To those gentlemen who did not believe in the hereditary nature of tuberculosis, he would put the following questions. How does it happen that tuberculosis follows in the wake of certain strains of animals from one generation to another? Also, how does it occur in certain families of the human subject generation after generation, and without contaminating other persons who live and sleep in the same rooms? In answering these questions, he would not accept the words predisposed or predisposition; they were only other words for hereditary.

Respecting the young lady named by Nocard, and alluded to by Professor Davis, this had been dragged to the front over and over again. It is strange that so much should be made of this case, and stranger still that this poor young lady was the only one recorded that drank of the milk of two tubercular cows; this case in his opinion wanted more conformation. But if the bacilli were so dangerous, by all means let us use every endeavour to get rid of them.

With reference to anthrax, Professor Davis was very strong on the bacilli being the cause, but he, the speaker, held that anthrax although scheduled under the Contagious Diseases Animals Act, was neither contagious nor infectious but very inoculative; what he meant was that anthrax did not spread from one animal to another by cohabitation or inhalation; it might be ingestion, but that was only another form of inoculation, and he was satisfied in his own mind, from long observation, that the body of the cow could by a peculiarity of mixed foods be rendered prone to take on anthrax. Whether the spores of the bacilli found a suitable bed in the prepared food and were conveyed to the body of the animal ready to accept them he could not say, but that the food had something to do with the malady he was confident. A change in the diet as a rule stopped the progress of the disease; again if it was all due to the bacilli we would have more cases. Taking the statistics into consideration the cases did not average above two in a so-called outbreak.

Respecting mammitis, he would leave that over, as he was down to open

up a discussion on the subject at the national meeting at Leeds, on the 12th of August.

With regard to lymphangitis, there must be more kinds than one; he had seen it in both fore and hind legs without discovering any wounds, and his mode of treating foal mares in particular was, calomel 1 dram, spt. æth. nit. 1½ ozs., ol. lini. 1 pint, and fixing up the limb in a cold water hay bandage (Syme), and pouring cold water down the syme every four or six hours. He had seen very bad results arising from giving a dose of physic, setting up superpurgation and metastic inflammation, shifting of the disease from the limb to the large intestines. He was very pleased to see Professor Davis amongst them but very sorry that there was such a poor attendance; he could not understand it at all. He believed if the meetings were held in some of the members' homes, they would find some excuse to be absent.

Mr. STEEL thanked Professor Davis for his microscopical and lime-light demonstration of the pathogenic organisms; he had been very much interested in the professor's address. Referring to anthrax, a few years ago he had some cases on a farm in his practice and he attributed the disease to some hay, which he then ordered to be discontinued and the progress of the disease was arrested. A few months after this a clearance sale was made on the farm, when the party who bought the hay he had condemned carted it home, which on giving to his animals produced anthrax.

In reply to arguments as to heredity, Professor Davis said that in Norfolk and Cambridgeshire hundreds of milk calves are raised. They are brought from all parts of England, and as 30 per cent. of adult cattle are acknowledged to be tuberculous, many of these calves must have been the offspring of affected animals, yet tubercle is almost unknown in these parts. Why is this? It is because the cattle are never housed. Even milking cattle and fattening bullocks are kept in open courts or in the fields, and if one should happen to be affected, it gets little chance of spreading the disease to its neighbours. Here, then, heredity fails to spread the disease, the chances of contagion being eliminated. The venerable President's statement that weed often followed mud fever and cracked heels gave quite an unlooked-for support to his statement that lymphangitis might be a germ disease.

With regard to anthrax there was nothing more certain in this world than that the bacillus anthracis or its spore was the only cause of the disease, and it was a confusion of terms to call it anything but an infectious disease.

At the close of Professor Davis's reply, a hearty vote of thanks was, on the motion of Mr. Armstrong, seconded by Mr. Hewson, accorded him, and was carried by acclammation; after which Professor Davis was unanimously elected an honorary member of the Society.

Professor DAVIS returned thanks for the great honour they had conferred npon him by electing him an honorary member, and thanked them sincerely for the courtesy that had been extended to him, and the kind manner in which his address had been received. It had been a great pleasure to him to come amongst the members of such a lovely place as the Derwentwater Hotel, not only that, but to be under the presidency of such a venerable Chairman as Mr. Carlisle. He could not sit down without proposing a hearty vote of thanks to him for his duties as Chairman.

This was seconded by Mr. J. Pears, and carried with enthusiasm.

The CHAIRMAN thanked them all for their kindness towards him, and said he was sorry to say that neither his eye nor his ear was as bright as once they were.

The members then sat down to an excellent dinner, prepared by Mrs. Harker, after which a pleasant hour was spent in song and toast, the health of the President being drank with musical honours. In reply, Mr. Carlisle proposed the health of the visitor, Mr. J. Smith-Hill, Principal of the Agricul-

tural College, Aspatria, who he was pleased to see amongst them. He considered agricultural colleges were in a great measure linked with those of the veterinary profession.

Mr. HILL suitably replied, and said he had been very much interested in the microscopical and lime-light demonstrations, so ably given by Professor Davis, and hoped it would not be the last time he would be amongst them.

At the request of the President, Mr. Thompson sang "Poor Old Joe," the meeting breaking up with "Auld Lang Syne."

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

Annual Summer Meeting at Kelso.

THE annual summer meeting of the Scottish Metropolitan Veterinary Medical Society was held on Wednesday afternoon, 6th July, within the pavilion of the Highland and Agricultural Society's Show at Kelso. The chair was occupied by Mr. Andrew Boyd, Melrose, and there was a large attendance not only of members of the society but of farmers and others interested in veterinary matters, who had been attending the Highland Society's Show.

After the reading and confirming of the minutes, Messrs. J. B. Barclay, Dunfermline, and A. M. Porteous, Galashiels, were nominated as members of the society.

Tuberculosis and the Compensation Question.

Mr. JOHN CAMERON, Berwick-on-Tweed, introduced a discussion on the subject of tuberculosis in cattle, with special reference to the compensation question. He said: I am very pleased that we have again an opportunity of giving a helping hand in this large and serious subject. For a good many years we were culpably reticent, but during the past few years we have done fairly by it, and I hope we will make no truce now, until satisfactory practical measures are really put in operation to combat this insidious and deadly disease.

The veterinary surgeon's knowledge of its magnitude in the bovine world, and the great danger therefrom to the human race is much greater than any other persons. It is therefore our duty to give all the help we can to solve the question of ways and means best adapted to check, and, if possible, eradicate the disease.

In dealing with every large and difficult subject, there will be various opinions as to what it is best to do. There is, however, one aspect of the subject regarding which I think there will be very little difference, viz., that when an animal has become affected to a certain extent, then it is for the benefit of the owner, his neighbours, and the nation, that this said animal should not be allowed to live any longer, and that the disposal of the carcase should be under control. This embraces all bovines so affected, whether it was diagnosed before or after slaughter.

This settled, we quickly, yet naturally, come to the subject of "Pecuniary Compensation," or atonement for our interference with the property of another—a large subject, requiring longer time than we have to-day. For a good many years I have said that tuberculosis, like many other subjects, could be easiest dealt with if taken piecemeal, such as legislation for dairy cows alone. I will, therefore, take it in portions.

1st. All dairy cows, whether for milk, butter, or cheese; whether the farm servant's one cow, the old maid's one cow, or a cow in a large herd of registered dairy cows. The poor man's children should have protection as well as the rich. In the meantime we will assume that the present general sham inspection of dairy cows and their surroundings has given place to suitable

sanitary housing and surroundings, and to regular and sufficiently frequent veterinary inspection, with the legal right to use tuberculin or any other recognised means of diagnosis.

Granting, then, that all these are in operation; here is a person with two to six dairy cows—his whole possession. Two or three or them have been pronounced unfit to supply mankind. What is now to be done with these cows? Are we to develop and legalise the present procedure? Tell the owner he must not use these cows' milk for any purpose. And if he hesitates to destroy them, you go frequently to his premises, and also tell his neighbours and customers that he has diseased cows, and you have to watch him because he will not kill and bury them as he ought to, because they are each giving some shillings worth of milk daily. He has no money to buy others, and you give him a bad name and ruin him. I say such procedure is repugnant to the feelings of every true Briton. Yet, it is the fear that such means would be put in operation that causes the owner to comply at once and save his reputation from being strangled by red tape and his business totally and irretrievably ruined. Why should there be compensation in so many similar and other cases and not given here also? In some cases we give more than market value when we put down the property of another. We said it was for the good of the nation that these cows should be put down. Then it is simply common-sense and justice that the nation should give a fair price for them. We pronounce an end to it. Governmeut must act, and act fairly, by everyone. Personal or local dangers require personal or local remedies. Tuberculosis has become a national danger, and justly we claim national interference and remedy. A portion of that remedy we have no hesitation in saying is—compensation. We have not had opportunity enough to determine what proportion of value would be given as compensation from national funds. The value, in any case, would not be a high one. My first impressions would lead me to fix three-fourths the value of the animal as a fair contribution from national revenue. Permission might be granted to the local authorities to raise another quarter locally. If the proportion actually received is not considered sufficient, then the owners can combine to raise the price of milk a little, which would be no hardship on the public.

There is another principle which operates in certain aspects of national life, and which helps us to "bear one another's burdens." I think it should be put in operation in giving effect to the distribution of compensation. The amount or rate should be graduated according to the number of cows possessed by the owner. The old couple or maid, whose whole possession and means of existence is one or two cows, should receive a higher rate than the man with 20 cows. We have this method in regular operation when paying into the national exchequer. Then why not adopt it when paying out. On these lines I think we should proceed with all practical speed.

Do the opponents of compensation consider that it would only be for a very short time that any considerable sum would be required? If all dairy cows were kept in the sanitary buildings and surroundings which they ought to have, and all diseased,ones killed or isolated, according to the degree affected, then in a very few years our bovine stock would be increased in value, far more than the compensation paid. Then what about the increased health of mankind, especially the young, owing to the pure healthy milk they would receive. Think of the increased health and stamina which the rising generation would then possess. Face the subject manfully like Britons, and do not allow it to drag us farther into poverty and disease.

2nd. Compensation for bovine animals sold for human consumption.—A very good feeding steer (or cows) has responded to the liberal treatment bestowed on him, and is nearly in a finished state. But he stops improving, and the farmer wisely decides to sell him at the first auction mart. The

ordinary casual inspection at the auction mart naturally fails to associate any disease with the appearance he presents. A first-class butcher buys him, suspecting nothing wrong, and he is killed in due course. The butcher is much disappointed to find the abdominal viscera in a tuberculous and dropsical condition, or there may be tuberculosis of the lungs. The public, and even farmers, have little idea of the great discrepancy which often exists between the external and internal appearances in the bovine world. While killing and dressing operations are going on, one of our sanitary inspectors (a road surveyor—an ex-tradesman of any kind—or an ex-policeman) comes along, perhaps, in company with the medical officer of health (a gentleman who has no knowledge of bovine pathology, and who talks about parturient apoplexy, septicæmia, and puerperal fever as one and the same disease). They appear on the scene, and the whole carcase is condemned and confiscated; such is our present procedure. To make the principle and practice of compensation a success, we must have a satisfactory meat inspection, which includes a correct knowledge and uniformity in its application. Granting, then, that such is the case, and that provision is made, as in other business lines, for putting everything which is not fit for first-class use to the next best use, and so on through all the different grades, and that nothing is put to a lower grade use than is absolutely necessary, then I maintain that the amount of compensation required will not be anything like so great as, judging by our present methods and appearances, one would suppose. The increased proportion of healthy parents, sanitary conditions, correct knowledge in supervision and economy in disposal, will only require a balance in the form of compensation which we can easily encounter. Why, then, should our procedure and actions be dishonourable to our knowledge, even when decorated with red tape? Enough—we vote the present method of confiscation and destruction as degrading to our honour and good sense, and we decide on a fair balance being made up by compensation.

3rd. Breeding stock.—Shall we pass them over because we have not courage or capacity to solve that dtfficult part of the problem, or because truly, we have only time to mention it? Regarding courage and capacity we give all praise to the very few of our breeders who have courageously tackled the subject and done good work in it, showing a worthy example. But what have the great majority done? sat in the breaching and called Woa! In trying to solve any difficulty we should ever remember that Providence helps those who help themselves. Our jibbing, resting friends may at once assure themselves that if they are to continue "a dog in the manger" policy, we can easily tether them and move on without them. No one needs to think that large sums of money will he given away and the owner do nothing to put things in a better way. No need to do so, it would be very wrong. But let the breeder put his shoulder to the wheel with a will to excel, and he may depend on it that there will be no insuperable difficulty in finding a fair, effective *modus vivendi*. I say every honour to our Navy, who not only guard our Empire in every clime, but who secure a safe guard to our food supplies. But I also say that discretion is still the better part of valour. If you disregard the essentials in our home production and depend more and pay more for foreign supply, then you burn the candle at both ends. I say the cost of an extra warship will give vastly better returns to the taxpayers if spent at home in helping the breeder who is helping to increase a healthy home supply. For the general good of the whole nation, man and beast, we pronounce for compensation. Agreed. The next question is, how is the money to be obtained for all sections? Do I hear someone reply, get it everywhere, in the same way as it is got in some places at present. It cannot be done in that way. It is not worth consideration. We were able to swallow the rather bitter pills of rinderpest and pleuro compensation; have they been injurious to our system?

Nay! Does the swine fever compensation hurt us? I know many of you will say it does no good; granted, but if the Board of Agriculture were to coat the pill with our prescription, do you not think it would then have a decidedly beneficial effect?

Now we get the short correct answer—yes.

Then what hinders us from getting under way? It requires parliamentary sanction for the Chancellor of the Exchequer to pay—a big hindrance. It would be a contested measure. The urban M.P. and the Socialist would object. Just so; and it is too much trouble for the interested parties to hold public meetings, to exhibit some of the specimens which produce our milk supply and samples of the good-looking beef which our zealous officials condemn and confiscate. Do the producer and distributor expect the public to allow them to do what they like without answering why or saying thank you? I do not suppose that even a new country would allow you to do so. It is the duty of all public-spirited persons, and those who are more primarily and pecuniarily interested to inform the public of the facts of the case and to crave their sympathy, their sanction and assistance in giving effect to the needed reforms and extensions—aye, even new departures if required. If such is done, I am sure the public will give a ready and generous response. Let a programme on these lines be put into public operation until next February, and I am confident that enough petitions and pressure will be forthcoming to warrant it being taken up as a Goverument measure and carried, to the great benefit of man and beast.

Professor M'LAUCHLAN YOUNG said he held somewhat different views from Mr. Cameron as to the non-hereditary and contagious nature of this disease. He could not see his way, therefore, to advocate the payment of compensation for animals affected with a preventable disease. He considered that instead of Government paying compensation for tuberculosis, it would be far better to encourage stockowners to improve the conditions under which the animals were kept. It was well known to members of the society that he held very strong opinions as to the non-hereditary nature of this disease, and an improvement in the sanitary conditions under which the animals were kept was the surest, and, indeed, the only way of reducing the prevalence of the disease. It was a well-known fact that where hygiene had been improved in farm buildings, tuberculosis and other diseases had been gradually lessened or had disappeared altogether. He was confident that if stockowners only improved the hygienic conditions of their buildings, tuberculosis would be on the decrease. He thought the best way to raise the price of the milk would be for farmers to test their cows, and keep only those cows which stood the test, and then they could advertise their milk as being all drawn from perfectly healthy cows. By being able to assure the public that all their cows were free from tuberculosis, the public would give more when they had a guarantee that the milk was sound than they gave at present, when they bought it at a risk. The only case in which he would be in favour of giving compensation was where an apparently healthy animal was bought fat by the butcher, but when slaughtered was found to be diseased. In such a case compensatton might be justly given. Sometimes animals which were badly affected looked very well externally, and not even Principal Williams could detect an animal suffering from tuberculosis at certain stages. He thought compensation should not be paid to the producer, but to the butcher. In all trades there was a risk, and he considered that tuberculosis was the ordinary trade risk of the British farmer, and the country was not entitled to pay for ordinary trade risks. If compensation were paid on the slaughter of these animals, farmers would send them much oftener to the slaughter-house than they did just now. The root of the matter, however, was efficient meat inspection. At present, with few exceptions, meat inspection, as carried out

in this country, was nothing less than a farce, whereas on the continent meat inspection was carried out in a rational manner. In this country the inspector condemned the whole carcase, even although tuberculosis was only limited to a small portion of the animal.

Mr. ANDREW HUTCHESON, Beechwood, vice-convener of Perthshire, an honorary member of the society, said he could not follow Mr. Young, because if the farmer's or dairymen's stock were to be destroyed without compensation, and only the butcher was to get compensation, the result would be that all the affected stock would be sent to the auctioneer and not to the butcher. Excluding "piners," which were sold at an evident risk, he thought that when a man bought a beast and fed it, and when it was slaughtered in the public interest as unfit for human food, he ought to be compensated out of the public purse. He had some correspondence on the subject with the chairman of the Edinburgh Butchers' Association, who considered that the exposer should repay the price. That, however, was just shifting the burden from one shoulder to another. He thought that was as absurd as to condemn the feeder. He could not say to what extent tuberculin was a proper test, but as he saw it applied in some dairies, he would like to know what became of those cows which reacted to the tuberculin test? They were not all isolated in separate byres, but were mostly sent to the sales to fall into the hands of someone else. He knew that a good many cows which had reacted had been sold as perfectly sound. With regard to the disease being hereditary, he was not so qualified to speak; but speaking from a practical experience he could not agree with Professor M'Lauchlan Young in saying that it was not hereditary. He was a great believer in hereditary, both in the human and the bovine species. He knew that a great many bulls which had been purchased at the Highland Show for exportation to South America had been tested, and if they showed signs of reaching there was no purchase. That showed that farmers were alive to the necessity of breeding from stock that were perfectly free from the disease. With regard to the condemning of diseased animals, he considered that a great many inspectors went to an extreme in condemning carcases which only showed a trace of tuberculosis. There was an immense amount of valuable beef condemned for no reason whatever. From what he had seen on the Continent, they might take a valuable lesson from the way in which they used up certain portions of the beef. There was great room for improvement in regard to inspection. Inspectors of beef ought to be men trained for that purpose, and thoroughly acquainted with the subject, instead of being intrusted to Tom, Dick, and Harry.

Mr. THOMSON, Aberdeen, said he looked forward to the time when more farmers would take advantage of the tuberculin test. They had all had their doubts about it at first, but in his own experience he had found the test wonderfully correct. He himself had a small dairy, and when he first tested them, four of the cows reacted. These four animals were at once killed, and in every one of them were found the distinctive lesions of tuberculosis.

Mr. HUTCHESON: What became of the carcases?

Mr. THOMPSON: They were all buried, skin and all. That perhaps might not be the general practice.

Mr. HUTCHESON: I doubt not.

Mr. THOMSON (continuing), said he coincided with Mr. Hutcheson as to the hereditary nature of the disease. No scientist would disabuse his mind of the fact that he had seen tuberculosis communicated directly from one cow to another, and he had these cows under his observation for some time. With regard to localised tuberculosis, he had no doubt that a great deal of valuable beef was destroyed through indiscreet and ill-informed inspectors.

Mr. HARRY THOMPSON, Aspatria, said there were two conditions necessary for the spread of the disease. There must be the communication of the germ

from the affected to the healthy subject, but there must also be the soil suitable for the growth of that germ, or otherwise the healthy subject would not become affected. Now no one denied that stock bred off tuberculous animals had a predisposition to the disease, and without that predisposition the healthy subject might be able to resist the infectious influences. At the same time, he held that breeders should make fuller use of the tuberculin test, and take every possible means of having healthy stock housed separate from reacting stock. On the whole he considered that the tuberculin test had been very favourable. The foreigners now would not buy our stock unless they had stood the tuberculin test, and that would help to make breeders use the test more largely than they did. Sir George Browne had been at the head of the Veterinary Department of the Board of Agricultue for the past 25 years, and he believed that during that time all the specific diseases had been scheduled under his instruction, and yet it was strange that this disease, which was so dangerous both to the human and the bovine species, had not been scheduled. There ought to be a special Act of Parliament to schedule this disease. Compensation should come out of the public purse. It was not so long ago since 24 millions were voted for the building of ships. If such a sum could be spent upon the protection of our shores they should spend some more in trying to get good healthy stock. What was the use of having such splendid ships if they had only rotten men to fight, bred from diseased parents?

Principal WILLIAMS said it was a remarkable thing that in the horse there was no difficulty in detecting the bacilli, whereas in cattle, except in young animals, they frequently could not find the bacilli. One would think that with the great number of bacilli in the horse the disease would be much more contagious than in cattle. In the horse, however, the disease was not contagious at all. It was a most remarkable thing that he had never known two cases of the disease to occur in one stable at the same time. He must agree with his friend, Mr. Thompson, that the disease was certainly a hereditary one. There must, as Mr. Thompson said, be not only the germ, but also the soil, rendered favourable by predisposition for the growth of that germ. The first step towards the abolition of the disease was to have a veterinary surgeon specially trained for the purpose, who should pass a special examination similar to that of the medical officer of health. There should be one veterinary medical officer for each county, who should be sufficiently well paid to devote his whole time to the work of applying the tuberculin test. It was a piece of nonsense to condemn the whole carcase of an animal which presented only local symptoms of tuberculosis. The city of Edinburgh was the biggest sinner in that respect. If there was only one little bit of tuberculosis about an animal, the whole carcase was condemned. If there was no dropsy the carcase was fit for human food, but there should be a standard for the guidance of the magistrates. He considered it a great shame for inspectors to condemn animals which he would be very glad to eat himself. The wholesale condemnation of carcases which showed the slightest trace of tuberculosis, as carried out in Edinburgh, was the result of ignorance. As to milk, there certainly was a danger in the case of milk from tuberculous mothers. He had seen a tuberculous sow which was suckled by her pigs, and the whole of the pigs went down with the disease.

Mr. MCHUTCHEON DOBBIE, farmer, Campend, who was invited to take part in the discussion, said the general public was very apathetic in regard to the danger of contracting the disease through drinking the milk of tuberculous cows. One Midlothian dairyman had at great cost to himself cleared out all the reacting cows from his herd, so that he was able to advertise that his milk was absolutely free from the germs of the disease. Not a single gallon of milk was sold from those cows which reacted. This dairyman sold his milk for 1s. 3d. a gallon, while his next-door neighbour sold his for 10d. or

11d. a gallon, without taking any trouble about the tuberculin test. The man who guaranteed all his cows, sent circulars to all the public bodies, but the response he met with from the general public, and even from the members of the medical profession, to whom he had sent his circulars, was not such as to encourage anyone to make any great sacrifice in the interests of public health. Mr. Dobbie went on to say that he had recently visited several public institutions in Edinburgh, with the view of getting information about the milk supply. In the case of one of the largest, he asked whether the milk was tested or sterilised, and he was informed that it was neither the one nor the other, and yet the officials of that institution were perfectly satisfied that the milk was thoroughly sound.

The CHAIRMAN pointed out, with regard to the question of heredity, that at one time the cattle of Canada were perfectly free from tuberculosis, but they began to be mixed with the cattle from this country, and then the Jews would not take them because they were tuberculous. The Jews then took the United States cattle, but they also became affected with tuberculosis through being mixed with the cattle of this country. It was difficult to meet the views of the feeder, the consumer, and the dairyman. The only feasible plan of eradicating the disease was to test every beast in every breeding stock, and have the reacting stock housed separate from the healthy stock. They could leave the Government to deal with the question of compensation.

Professor DAVIS, New Veterinary College, said it had been clearly proved that the disease was not an hereditary, but a contagious disease, and the way to stop the spread of it was to isolate affected animals. If the recommendations of the Royal Commission of 1895 were carried out, there would be little need for compensation, because practically only carcases of tubercular animals that were emaciated, or were affected with generalised tubercle, would then be condemned, and for these no one should expect compensation. The butcher's risk could be met by a system of mutual insurance, such as obtained in some towns now.

After some further conversation, Mr. HUTCHESON moved the following resolution:—

> That we petition the Government to use their influence to employ recognised men who have passed certain examinations, as meat inspectors throughout the country, and that compensation should be paid out of the public purse in all cases where the carcases of cattle, including dairy cows, have been condemned for human food.

Principal WILLIAMS seconded, and the motion was unanimously adopted.

The Chairman was to have read a paper on "The Docking of Horses and the Dishorning of Cattle," but in view of the counter attractions of the show it was resolved to refer this to next meeting.

A vote of thanks to the chairman terminated the proceedings.

NATIONAL VETERINARY ASSOCIATION.

Annual Congress in Leeds.

THE sixteenth annual congress of the National Veterinary Association was opened yesterday in the Council Chamber at Leeds Town Hall. The President (Mr. A. W. Mason, F.R.C.V.S., Leeds), occupied the chair, and there were about sixty members present, including Mr. W. Hunting (general secretary), Mr. Frank Somers (secretary of the Leeds Provisional Committee).

The CHAIRMAN stated, with reference to the first business—namely, the selection of a place of meeting for next year—that on the previous evening

the council had received a courteous invitation from the Western Counties Veterinary Association to visit Plymouth. The invitation was unanimously accepted, and Mr. Bloye (Plymouth), was chosen president for the ensuing year.

In acknowledging the vote, Mr. BLOYE said the Western Counties' Veterinary Association would do their best to make the congress welcome. They might not be able to offer them so gorgeous a reception as they had met with elsewhere, but he felt assured that they would be compensated in that respect by the natural beauties of Devon—beauties not equalled by any other part of the kingdom.

Election of Officers.

The officers for the ensuing year were appointed as follows :—Vice-presidents, Mr. J. Penberthy (London), Mr. H. Olver (Tamworth), Mr. G. H. Elder (Taunton), Mr. W. Harvey (St. Columb, Cornwall), Mr. E. W. Baker (Wimborne), and Mr. Barling (Monmouth). Mr. Hunting was re-elected general secretary, and Mr. Wragg (London), treasurer.

The Civic Welcome.

A deputation, representing the City Council, consisting of Alderman Lawson, Councillors Appleton, Bettison, Scott, and Womersley, accompanied by Mr. C. C. Jolliffe (deputy town clerk), was then formally introduced by Mr. Somers.

Alderman LAWSON, in welcoming the congress to Leeds, prefaced his remarks by explaining that the Lord Mayor was unavoidably absent. The chief magistrate of a city such as Leeds was naturally a very busy man, and he was obliged to take his holiday when he could. They were also without the Deputy Lord Mayor (Alderman Gordon), who was away from Leeds on account of health. But the Lord Mayor had requested him (Alderman Lawson), to extend to the congress a very hearty welcome. As a body engaged in the cause of science, and labouring for the extension of knowledge, he trusted their efforts during the congress would be crowned with success.

A vote of thanks was given to the Lord Mayor and Corporation, and to Alderman Lawson and the deputation, the CHAIRMAN expressing, on behalf of the congress, hearty appreciation of the welcome accorded to them.

The deputation then left the council chamber.

It was agreed that the President and Professor Williams should be appointed to represent the Congress on Public Health, which is shortly to be held in Dublin.

The President's Address.

The PRESIDENT opened his address with a survey of the agricultural, mineral, and industrial resources of the county of broad acres. Yorkshire, he said, was the great seat of the woollen industry. Its mines furnished one-eighth of the total output of coal, while in the north-east corner of the county were those vast deposits of iron ore which made Teesdale one of the greatest iron-working districts in the world. Yorkshire possessed one-eighth of the total horses in England, one-ninth of the cattle, one-tenth of the sheep, and one-twelfth of the pigs. The North, the greater portion of the West, and the East Ridings were the chief grazing grounds ; while the East Riding was the great breeding-place for the hackneys and hunters for which Yorkshire was celebrated. No wonder that with such resources they were proud of Yorkshire. Turning to the work of the association, the President commented on the close relations between the profession and the general public, and expressed his conviction that all that was possible was being done by

them to stamp out all diseases of animals which were communicable to man. The decrease of swine fever was a matter for congratulation. In the matter of rabies, there had been a reduction in the number of cases and the number of districts attacked. Anthrax, as they knew, in this district—reading so often of deaths at Bradford from woolsorter's disease—was a serious disease, but science had taught them how to prevent outbreaks, and also the benefits of inoculation. They had also paid great attention to tuberculosis—which, as they knew, caused the majority of deaths—and if the Government had done nothing, they, at any rate, had. By the use of tuberculine they found that diagnosis was much facilitated. They were now in a position to render assistance to medical officers of health, and though that assistance was not always appreciated by the public, it had been cordially recognised by the medical officers of health. It was a source of satisfaction to know that there had been an increase in the number of authorities who had provided public slaughter-houses, that there was a general disposition to carry out the recommendations of the Royal Commission on the subject, and that Leeds was considering the desirability of following the example of London by closing all private slaughter-houses.

On the motion of Mr. J. ABSON (Sheffield), seconded by Mr. H. SNARRY (York), a hearty vote of thanks was given to the president for his address.

Professor WILLIAMS then read a paper on "Traumatic Inflammation of the Horse's Foot." A discussion, lasting between two and three hours, followed. A paper was also read on "Mallein and Tuberculin," written by Mr. James King (Manchester), who was absent from the congress. An interesting discussion took place, after which the congress adjourned.

DINNER AT THE QUEEN'S HOTEL.

Colonel Coghlan and the Morecambe Police.

The annual dinner of the association was served in the evening at the Queen's Hotel. Mr. Arthur W. Mason, F.R.C.V.S., presided. About 60 sat down.

After the usual loyal toasts had been honoured, Mr. W. WOODS proposed "The Army, Navy, and Reserve Forces," and asserted that the veterinary department of the army had accomplished all it had been called upon to do.

Colonel DUCK, in responding, said the veterinary department was probably the smallest in the army, but it was second to none in efficiency. Veterinary officers were accompanying our soldiers on their march to Khartoum. Several others were in South America engaged in the purchase of horses and mules for South Africa to fill the gap in our transport service there, caused by the fatal disease that recently broke out in that quarter of the globe.

Colonel COGHLAN, of the Leeds Artillery, also replied. He congratulated Mr. Mason on having attained the distinguished position in which that association had placed him. Mr. Mason was one of the officers of the regiment of which he (the speaker) was Colonel. He took that, the first public opportunity he had had, of congratulating Mr. Mason on the honour conferred on him. In regard to the reserve forces, more particularly the volunteers, he could say with Gilbert that their lot was not a happy one. There appeared to be little crime in the neighbourhood of Morecambe, and the magistrates at Lancaster had received so many white gloves that they apparently had determined to stop the import of them. From the proceedings in Lancaster last week he had reluctantly come to the conclusion that the county authorities there had been endeavouring to manufacture crime. The reports in the press had made public how the police had entered their camp at Morecambe—a camp of respectable men, which he might mention, by the

way, had subscribed some £35 towards the Children's Holiday Fund. Two of the attendants in their canteen had been fined £5 each, and probably it would cost the Colonel at least £30. They had, however, the satisfaction of knowing they had the sympathy of the public, and the sympathy of that association. Whether the matter would be carried forward or not he was not prepared at present to disclose. However that might be, it seemed to him that loyal volunteers should not be persecuted in the way they had been. The volunteer force, he ventured to predict, even under persecution, would not dwindle into nothingness. There were 250,000 volunteers in the country prepared to take the place of regulars when wanted. Defence, however, and not defiance was their motto.

Mr. H. A. CHILD, in submitting "The City of Leeds," as an humble non-ratepayer, and a representative of others in a similar condition, welcomed the members of the association to Leeds. He congratulated them on having such an excellent president. Their election of a Leeds gentleman to that position was a recognition of the importance of the city.

Councillor SCOTT and Councillor BETTISON responded, the latter, as chairman of the Hackney Carriages' Committee, rejoicing that London, following the lead of Leeds, had just decided to adopt a system of sixpenny cab fares.

Mr. E. FAULKNER gave "The Royal College of Veterinary Surgeons." He said the members of their profession kept well abreast of the times. In certain directions they could take credit to themselves for the fact that they had been in days gone by somewhat ahead of the times. As a result, they were able at present to meet demands that it had hardly been anticipated they would have been able to do.

The PRESIDENT, replying, thanked the members for the honour they had conferred upon him. He assured them that nothing he could do for the advancement of the interests of those engaged in the profession would be neglected. He regretted that of late the attempts of outsiders to creep into the profession had largely increased. He received letters daily on the subject. The association were now considering the case of a gentleman holding the diploma of an American college.

Mr. A. H. BLOWE proposed "The Medical Profession," which Dr. W. H. BROWN and Dr. J. SPOTTISWOODE CAMERON acknowledged. The latter referred to the subject of meat inspection. The legislation, in its wisdom or otherwise, had imposed upon the medical officer of health the duty of seizing meat considered to be diseased. Fortunately, a corporation like Leeds was able at all times, when considered necessary, to call in special aid. He acknowledged the help he had received in this way from Mr. Bowman, Mr. Mason, and Mr. Somers.

Professor WILLIAMS proposed "The National Veterinary Association," and congratulated Mr. Frank Somers, hon. secretary of the provisional committee, on the success that had attended his efforts and the efforts of those associated with him. They had had that day a splendid gathering.

Mr. W. HUNTING, the general secretary, responded.

"The Visitors" was proposed by Mr. J. COOKE and acknowledged by Mr. R. MILLS.

During the evening there were musical contributions by Messrs. Armstrong, Browning, and Brearley. They were much appreciated.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 128.)

IF confirmation of my views concerning slow development of young animals, their liability to a disturbed state of health, be desired, you have only to watch

the reports from the various training quarters, and the reasons assigned in the leading sporting journals for an indifferent display on the part of a crack two or three-year-old in some classic or highly important race; for instance, it was stated only this season in a leading journal that one horse high up in the list of favourites for the Derby was a difficult animal to train, as not only did he suffer from dental troubles, but he was an uncertain feeder. Then, again, you read of this and that horse which have grown and muscled out marvellously since last seen in public, or of another that has not grown perceptibly since the previous season. You must bear in mind that all these animals are of ages varying from two to four years old, a period of their lives during which dentition changes are taking place and osseous and muscular development are proceeding, while at the same time they have to undergo sufficient work to prepare them and render them fit for their frequent engagements on the racecourse. These conditions and requirements undoubtedly make a great claim upon their physical strength, and if anything was calculated to discover a weak spot, these certainly are. At the same time it becomes all the more important that, if possible, the causes of these frequent disorders should be discovered, for they certainly are not natural to the horse in his primitive state.

Such cases as these furnish opportunities for the exhibition comparatively of the different methods proceeded upon by the Allopathic and Homœopathic Schools of Medicine respectively, and the chief difference is this, that while you of the orthodox school of medicine consider it best to deal with individual developments, such as defective dentition, mal-assimilation of food, as evidenced by horses that are called "bad doers," and other forms of disorder which appear in books on pathology under various and peculiar designations, we of the homœopathic school find in the majority of such cases that there is a fundamental cause to account for all these developments which are more or less associated and dependent one upon the other; and that instead of treating them, when present at the same time, as distinct disorders, they should be looked upon as a whole. At the same time, every case demands special individualisation; no one case can safely be taken as representative of another.

Now, in the cases of these young growing animals, it appears to me that the various disorders of which they are at times the subjects, and which interfere with their proper growth and development, and also prevent them from attaining that perfection physically which would otherwise enhance their value and render their management during training much less difficult, come within the category of what I shall term, for the sake of being explicit, a strumous or psoric dyscrasia. I have found that by making a careful individualisation of each case, obtaining from attendants a history of symptoms observed from time to time which struck them as being a digression from the generally recognised habits of a healthy animal, and putting these all together under the head of one general disorder, I have been able to find a remedy which influenced all the symptoms, however foreign and independent they may at first sight have seemed to one another, the systemic vitality being renewed, the dormant powers of development released, the deviations from a healthy condition entirely changed, vigour restored and perfect health established. This result was obtained on the principle that "the totality of symptoms observed in each individual case of disease can be the only indication to guide us in the selection of a remedy."—(Hahnemann.)

In dealing with the young subject first, I have reversed the general order of things, but I must ask you to bear in mind that the management of the young animal and the disorders which the ordinary management of the present day—according to my view—give rise, it has been my main object to discuss. I will now pass on to the consideration of the matter as it affects the brood mare.

So far as reproduction is concerned, I shall not attempt to deal with the complex subject of mating male and female, as that of itself affords ample scope for a single paper, so varied are the opinions of practical men upon this subject, the consideration of which would occupy much longer time than is now at our disposal. I shall assume that we start with the mare in a state of pregnancy, by which I mean a normal uterine pregnancy. The breeding of the thoroughbred horse involves considerable outlay of money, when one calculates the average original cost of the mare, the fee for the service of a fashionable stallion, together with the charges that arise in the management of a well-conducted breeding establishment, hence it is of the first importance that nothing affecting the life of the mare which demands careful attention should be left to chance; nor should a mare of this class be treated as though she were in her primitive state, under the impression that such primitive conditions are at all applicable to an animal that in virtue of its surroundings cannot possibly prosper in performing the functions of maternity, except under the artificial management necessarily involved under the peculiar conditions of breeding in this country. Personally I have no doubt in my own mind that the many failures and disappointments met with by men of considerable experience are due in no small degree to a lack of appreciation of this fact. You have only to note how mares of variable temperament and peculiar characteristics are herded together in the same paddock; how during the period of pregnancy they are left pretty much to their own devices to find food in close cropped meadows; how they are allowed at this critical period to lie out at night exposed to the chilling influence of cold frosty nights; that no special attention is given, or provision made to observe and provide for the changes which take place during the critical periods of pregnancy. It is well known by professional men that the physiological properties of the gravid uterus differ entirely from those in the non-gravid state as to sensibility, and rendering the subject of the uterus irritable or the reverse in temperament. These are facts not recognised by the breeder, but nevertheless they demand attention if many of the difficulties which beset the art of breeding are to be overcome. The extra irritability and consequent contractility of the gravid uterus is, in my opinion, frequently responsible for cases of abortion which might be obviated if greater consideration were evinced for the protection of the mare from influences to which she ought not to be exposed. Therefore I maintain that too much care in providing for the comfort, well-being, protection, and feeding of a pregnant mare cannot be exercised; and unless the necessary amount of capital to meet such demands is forthcoming, and the breeder is prepared to intelligently watch for changes that must from time to time take place during this period, and call in, far more frequently than is usually done, professional veterinary aid, very little more than the indifferent success of the past can be anticipated.

As I have already indicated, I look upon it as a most desirable arrangement to provide each mare with a separate box and paddock, and only in cases where two or three mares are decidedly attached to one another should the risk be incurred of keeping them together. It is quite possible, and may be it is desirable, that the separate paddocks which I advocate may be so arranged, side by side, that the advantages of company may be provided for without the disadvantages arising out of segregation in one enclosure; under such conditions the provision of food becomes an absolute necessity, and the very fact that renders the arrangement a necessity enhances its value in my eyes, because I am perfectly satisfied that a change of diet is, in the case of a pregnant mare, a matter of first importance. I have already dealt with the subject of food in the form of artificial grasses when referring to the young growing animal, I can only add that the same system

of food supply is applicable to brood mares, and inasmuch as the pregnant mare has to keep up her own condition and to afford nourishment to a growing fœtus from the one source of supply, it cannot be too strongly insisted that the provision should be of such a character, and selected with an intelligent appreciation of existing requirements as to meet all the varying demands of this changeful period. Moreover, it may be added, that it is *doubly* important, as not only has the systematic vitality of the mare to be considered, but also the development of the fœtus, and the probable influence upon the young animal after birth. It is unnecessary among a body of men like the present to make any special reference to the importance of making due provision for sanitation and hygiene, those are points which among veterinarians go without saying, and therefore call for only passing notice from me on the present occasion.

I propose to consider a few of the disorders incidental to pregnancy which have a bearing upon the well-being of the mare and her produce that in my judgment call for more attention than they generally receive, and which at the same time may be satisfactorily treated by an appropriate selection of remedies and with drugs suitably prepared.

Although as a rule brood mares kept solely for breeding, that do no sort of work, are after service by the stallion left pretty much to chance, as though they were never the subjects of disorders which are characteristic of the human subject in like conditions, I am strongly of opinion as the result of observation, that, while in the majority of cases such disorders appear with but slight intensity, and probably pass away quickly, they *do arise*, and that the mare's present and future usefulness, as also the well-being of the produce, would be materially enhanced by a distinct recognition of this fact, and by the adoption of measures for the r relief. For I assume that everyone will admit that during pregnancy there must be a strain upon the constitution which is calculated to interfere with the natural vitality of the mare and the nutrition of the fœtus if not properly guarded against.

In the first place, I shall consider disorders of the digestive system. I have no doubt you have observed at one time or another that pregnant mares are susceptible of variations of appetite, and that the same is observable not infrequently at the commencement of gestation; but while this would be observed with intense interest, to say nothing of anxiety, in a woman, it is, as a rule, allowed to pass in the mare. Why should this be so? They are without doubt symptoms which are the result of the sympathetic relations between the stomach and the uterus. Again, at this period mares are frequently the subjects of insatiable hunger, and when the opportunity arises for the gratification of this morbid desire, which is probably due to lack of nutrition and indifferent assimilation through sympathetic nervous irritation, an attack of colic is the natural sequence; or on the other hand, the thirst may be so great that the mare drinks a much larger quantity of water than is desirable and the result is similar. At another time during the earlier period of gestation a mare may be observed aimlessly wandering about the paddock or standing in some shady place, with no desire for food and absolutely partaking of none. This condition is one that calls for careful attention. It may amuse you to learn that I compare this condition to the well recognised "morning sickness" of women. That mares experience nausea appears clear enough, otherwise why do they refuse their food? but as equines do not vomit the mare has not the relief afforded to the woman under similar conditions. Important complications may, and I doubt not do arise in some severe cases, from injury due to marasmus and other cachectic conditions to both mare and foal. At such times soreness and tenderness in the epigrastic region may be detected, which I take to be due to irritation of the sympathetic nervous system in that locality. The stomach itself may not be in very close relation with the

uterus, but the latter organ is in very close sympathy with the nervous system which annexes the stomach and governs the functions of digestion and nutrition; hence the marasmus and cachexia which succeed cases of nausea at this period, and this is the time, I believe, when the psoric taint referred to in the earlier portion of this paper is implanted in the system of the developing fœtus. Pyrosis, or heartburn, is a form of gastric disturbance that I am quite satisfied frequently occurs in pregnant mares, and at these times they may be observed licking lime-washed walls, an instinctive discretion to furnish an alkali to counteract the distressing acidity which prevails under these circumstances. This chemical antidote which nature appears to suggest even to the lower animals is by no means a cure for the gastric disturbance that gives rise to these symptoms, for in the words of a very able writer (Dr. Guernsey) on this subject, "*If they sweeten the streams they do it at the expense of the fountains.*" Dyscrasiœ which are due to such a source of origin are, I believe, hereditary, and though their development may be modified by individual peculiarities they require specific treatment which will correspond with the variety of the disorder in different cases.

Constipation is by no means uncommon in pregnant mares, though probably rarely any importance is attached to it, or any attention devoted to its alleviation, it may be thought by most men that constipation is very unlikely to arise when a mare is at grass, but that it does so I have had ample evidence. It is quite possible, nay, more than probable, that the character of the grass through being retained constantly as pasture has much to do with it, so many of the grasses growing in these pastures are not of the original seed grown, but of a wild character, that they possess chemical qualities quite the reverse of the true species, and this is an additional reason for depending on artificial grasses for breeding purposes. At the same time constipation is not unfrequently an attendant of pregnancy, and it is more apt to occur in mares that lead an indolent life and do no work. Although of itself constipation may not prejudicially affect the general health of a mare, it is important that it should be corrected, because the mechanical pressure brought to bear upon the rectum by the gradually enlarging uterus, serves to paralyse the muscular coats of the intestine, while the straining which becomes necessary to evacuate the fæces is certainly detrimental to the well-being of the uterus and its contents. Further complications as the result of unrelieved constipation are disordered livers and a rush of blood to the head; under proper treatment this undesirable condition may be corrected, but not by aloetic purgation; "the remedies will be indicated by the nature of the discharges and by the accompanying symptoms and totality of the patient's condition."

The opposite state of the fæces, diarrhœa, occurs during pregnancy, and may be due to some constitutional dyscrasia "called into action by the profoundly vital function of gestation," to some unsuitable diet, or to taking cold through exposure, especially during frosty nights at the turn of the seasons.

Inasmuch as diarrhœa suggests itself as more like an actual disease than constipation, it generally receives prompt attention at the hands of breeders, and some astringent is usually administered, with the result that temporary relief is perhaps afforded, though a radical cure is rarely effected. It is important that early and judicious treatment should be resorted to, accompanied by the due observance of a suitable dietary, rest, and warmth, or abortion may be the consequence of a protracted attack.

The forms of diarrhœa are varied, being due to the formation of too much acid in the stomach, to weakness of digestion, the food passing away as though it had not been at all influenced by the solvent action of the juices. At other times the liver is involved, and the fæces have what is commonly

termed a bilious appearance; the evacuation may be painless or accompanied by pain, soreness, and straining. Indeed, so varied are the symptoms of the numerous forms of diarrhœa that nothing short of a close study of the different indications and characteristics of the many medicines that are applicable will enable a practitioner to make the right selection. At the same time, by the exercise of discrimination it is by no means difficult to hit upon the drug that will afford satisfactory results.

Among the disorders arising at this period, as gestation advances, we not infrequently meet with mares which are the subjects of urinary difficulties as the increasing size of the uterus causes it to press more and more upon the bladder and its neck. Urine has to be passed much more frequently, while the unusual pressure brings about an irritable condition of the neck of the bladder, the irritation culminating in dysuria, strangury, and complete retention of urine, and should there be any displacement of the fœtus, which may sometimes be diagnosed from the suddenness of the attack, as the result of a violent though voluntary gallop, or over exertion in consequence of the pugnacity of a companion mare, special treatment is undoubtedly called for, requiring manual assistance in addition to the requisite therapeutic measures. It may also be necessary to use the catheter to relieve the distress from which the mare is suffering by reason of an accumulation of urine in the organ. Among the symptoms we observe pain in region of kidneys, indicating retention, passing small quantities of urine, wishing to pass more but unable to do so, involuntary dribbling of urine, soreness in the region of the kidneys, very frequent urination, urine tinged with blood, frequent urging to pass urine which only dribbles away drop by drop, mucous sediment deposited; urine on standing and becoming cool has an oily appearance, deposits a sediment like coffee-grounds, urine is acrid corroding the labia, and so on. A large number of other symptoms might be added, all of which have been observed at different times and in different cases, and all of which call for special treatment.

Albuminuria is a pathological condition that is induced by pregnancy, and more especially is this the case if mares have any psoric or strumous tendency; it goes without saying that as albumen increases in the urine so it must decrease in the blood. It would seem that pregnancy almost invariably develops any latent dyscrasia that may be lurking in the system, therefore if a mare is the subject of any latent psoric diathesis, especially when the same is attended with a morbid state of the kidneys with an inclination towards a slow secretion of urine, it is not to be wondered at if albuminuria appears, particularly in the later months of pregnancy. I have only met with one case of albuminuria in a pregnant mare during the period of my professional experience, the most prominent concomitant symptom of which was dropsy of the abdomen, and this was cured with arsenic, which was no doubt the true homœopathic similimum to the case. Albuminuria in the pregnant mare is not that of the permanent type, and frequently disappears at the termination of pregnancy, but this does not render it unnecessary to treat the disease while it appears lest the consequential results may be transmitted to the progeny.

I am unable to deal with all the disorders that arise during pregnancy in detail, as the limits of such a paper as this do not allow of it, but I may mention among other disorders those affecting the respiration, such as cough and dyspnœa, derangement of the circulatory apparatus, such as plethora, anæmia, hydræmia, œdema, anasarca, ascites, and varicose veins are met with, each of which calls for special treatment in order to prevent the transmission of the tendency of either of these pathological conditions to the progeny. I have no doubt at all that many failures on the racecourse are due immediately to a lack of observation when these conditions present themselves in the dam

and to an absence of any sort of treatment to mitigate and overcome the same.

I now pass on to a cursory glance at the affections of the uterus, and bearing in mind the frequent occurrence of abnormal presentations which are met with in the mare, I think you will agree with me that it is highly important to recognise the existence of conditions that have—and cannot but have—a powerful influence upon the ultimate fulfilment and completion of gestation. My own opinion is that a more watchful observance of a mare's condition during the varying phases of the period of pregnancy would discover the existence of disorders that called for professional attention at the time, but which, being allowed to pass without notice of any sort, become responsible for conditions at parturition that not only render the work of the obstetric surgeon much more difficult, but frequently place the chances of a successful termination absolutely beyond the reach of possibility. Mares are too often treated as though they were inanimate machines, rather than the possessors of highly sensitive organisations that are extremely susceptible to surrounding circumstances, which may at any time exercise a potent, though undiscernible influence upon them.

The morbid conditions of the uterus in the pregnant state may be considered :

1. As to excessive sensibility involving at times actual pain.

2. Displacements, such as prolapsus, anteversion and retroversion, and I am inclined to attribute many difficult cases of parturition to such conditions, previously unrecognised. The most serious of these complications is undoubtedly retroversion ; but so patient are some animals under pain that it is not easy to recognise that anything is wrong, or to distinguish one form of displacement from another, and nothing short of an exploration *per vaginam* will clear up the matter. In cases where mares have already been the subjects of difficult parturition, suspicion may reasonably be aroused, and a professional man may have his attention drawn to the probabilities of displacement on a future occasion, especially in retroversion, which generally, I think, follows in a pregnant uterus after a previous retroversion. Careful attention to the call of nature as regards both the bowels and the bladder are important to obviate any disposition to displacement when mares have had difficult parturition on former occasions. In such cases the replacement of the uterus is of prime importance, but when this has been effected manually with the aid of appropriate remedies, nature may be assisted to retain the uterus in its proper position.

3. Abnormal secretions are sometimes observed in the form of a vaginal discharge, which may be of a bland character, or give rise to irritation in the vulva and adjacent parts. This occurs when mares have had very bad times at parturition, and the obstetric surgeon has met much difficulty and possibly used some violence at a previous parturition. Where this discharge is persistent it is generally owing to a chronic inflammation of the uterine mucous membrane as well as that of the vagina, and nothing short of suitable therapeutic treatment will effect a satisfactory cure ; the local application of astringent agents by means of injection is merely temporising with a pathological condition serious in its consequences to mother and offspring. Hydrorrhœa is a discharge of watery fluid from the uterus during gestation without rupture of the membranes. I have good reason to remember this condition, having once in my early days been called to a mare under the impression that parturition was imminent, but on inquiry was informed that it was only the ninth month of pregnancy ; the owner was under the impression that the mare was about to abort, as he said that the water bag had burst. There was evidence about the floor of the box of a profuse discharge of watery fluid, and I can assure you that I felt sorely perplexed, for there were no signs of

labour observable, indeed all the usual symptoms which generally precede parturition were absent, and the flow continued at irregular intervals after my arrival. It occurred to me that I had better make an examination of the os uteri, and this served to convince me that the discharge did not come from the true water bed, and I felt that there was no cause for immediate alarm; so I prescribed for the time being, drove home and looked into the subject, and found that this affection was sometimes observed during the later months of pregnancy. The mare was thereafter kept perfectly quiet, and the remedy indicated by the attendant symptoms was exhibited with complete success.

In contradistinction to this comparatively harmless condition we sometimes meet with dropsy of the amnion, which may arise without any very notable distension of the abdomen, but it is as a rule marked by great rapidity of development, and is accompanied by distressing coustitutional symptoms affecting respiration and the circulation, and ultimately results in abortion; and even if expulsion of the fœtus does not follow, the effect thereupon is highly injurious through enfeeblement of nutrition by such excessive secretion, or dissolution of the fœtus in the amniotic fluid may take place. It is worthy of notice in passing to observe that, whereas in dropsy of the amnion the form of the uterus can be diagnosed and that it assumes a spherical shape, fluctuation is obscure, thirst slight, amount of urine passed is normal, and the lower extremities do not become œdematous, whereas in ordinary ascites, which sometimes complicates pregnancy, thirst is considerable and frequent, the urine passed is small in quantity, the shape of the uterus cannot be distinguished; percussion discovers fluctuation at the posterior part of abdomen, and the lower extremities are considerably infiltrated. Now, although there is not much encouragement to anticipate successful treatment to result in such a case at the time, there is good reason to believe that suitable constitutional remedies administered at an earlier period of a subsequent pregnancy may prove of great advantage, that the health of the dam may be improved, and the safe delivery of a healthy foal be realised.

I have already made such a demand upon your patience, and I fear exceeded the limits which such a paper ought to occupy, that I cannot pretend to even touch upon abortion, its predisposing and exciting causes, the symptoms which indicate an impending miscarriage, nor the remedial measures I should advocate to obviate the same. I regret this all the more, because the constitutional dyscrasias I have several times alluded to in the course of this paper are responsible for many cases of abortion, in my opinion, which might be removed by suitable remedies of an anticipative character. Nor can I deal with parturition and all the various unnatural presentations that are so frequently met with in veterinary obstetric practice, and the treatment of the mare during retarded labour; but under this head, which of itself is sufficient to find material for a paper, I shall confine myself to a few critical remarks upon the common practice of what I believe to be a too hasty interference with natural labour, and the early exercise of the obstetric surgeon's operative art. I am a firm believer in non-interference with obstetric surgical instruments until all therapeutic measures have been exhausted, or the surgeon has unmistakably satisfied himself that the presentation is of such a character that all hope of natural delivery must be abandoned. All through my professional experience I have with every kind of patient adopted the practice of administering a remedy which has a specific influence upon the uterus for some weeks before the expected date of parturition with a view to its easy fulfilment, and my practice has been followed with the happiest results; indeed, so powerful is the influence of this particular drug upon the uterus, that I am satisfied I have met with several cases in which the presentation was far from normal, that under its exhibition have righted themselves, and deliveries were

effected without extraneous assistance. This, I have no doubt, will sound to you extremely improbable, but I have the assurance of several friends in the sister profession that their experience coincides with my own, unlikely though it may seem to the general run of practitioners. To realise anything like approximate results to this will, I am sure, commend itself to your judgment, for you will probably agree with me that not a few cases of barrenness, if not subsequent abortion, owe their origin to extreme measures of a surgical character in previous deliveries, which might possibly have been obviated by the adoption of the therapeutic measures herein advocated.

In conclusion, let me say that the time at my disposal for the preparation of this subject was so short that I have but very inadequately dealt with it, touching as it were but the fringe of the arguments that should have been enlarged upon, for it is a subject of far-reaching importance to this country. So long as the sport of racing continues to grow and develop, as for some years past it has done, so long will there be an ever-increasing demand for thoroughbred horses. Already the amount of capital invested in this branch of business is very large, and there seems every probability that it will have to be increased if supply is to keep pace with the demand, hence the consideration of the difficulties that beset the breeder, and how to overcome them may well provide members of the veterinary profession with useful material for discussion; for what with bicycles, motor cars, and preventive medicine, we shall soon be starved out unless we seek for fresh fields and pastures new in the endeavour to earn our daily bread. And if we can only prove to breeders that as a profession we are advancing, and can show them new and better methods of procedure, their own interests will prompt them to avail themselves of our advice.

The PRESIDENT and Mr. BUTTERS thanked Mr. Hurndall for the trouble he had taken in preparing his paper; and the latter moved that in consequence of the very small attendance, the paper be published in the usual way, and discussion should be taken at the next meeting.

This was seconded by Mr. MELLETT, and carried.

A hearty vote of thanks to the president for his conduct in the chair, moved by Mr. OWEN, and seconded by Mr. BUTTERS, closed the meeting.

River Trip.

A quite unexpected, and perhaps therefore even more appreciated pleasure, was afforded by the kindness of Mr. E. J. Mellett, M.R.C.V.S., of Henley-on-Thames, who, finding that some two hours would elapse between the close of the meeting and the departure of the return train, very thoughtfully chartered a steam launch for their enjoyment. The evening being fine, and the Thames scenery in its full summer glory, the trip was greatly appreciated.

TASTELESS DOG PILLS. (Arthur H. Cox & Co., Brighton.)—We have been favoured with some samples of these pills, and have tried them. They are well coated and are perfectly soluble and, we believe, are faithfully compounded according to the formula given with each sample. Although we are not altogether in favour of veterinary surgeons buying all their preparations ready made (a practice that is getting, perhaps, too common), we are constrained to admit an exception in favour of Cox's Tasteless Dog Pills. Some of the formulæ are very good; some are rather antiquated; still the prescriber can have the pills made according to his own formula, and may rely upon having them accurately dispensed. The price strikes us as being very moderate, considering the excellence of the article.

CONTAGIOUS DISEASES ANIMALS ACT, 1894 and 1896.

SUMMARY OF RETURNS OF OUTBREAKS, for the four weeks ending July 16th, 1898.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders. (including Farcy).	Rabies.	Anthrax.	Sheep-Scab (for month of June).
None	Outbreaks 233 Slaughtered 2,937	Outbreaks 59 Attacked 109	Dogs 2 Destroyed 1	Outbreaks 37 Attacked 49	Outbreaks 39

SCOTLAND.

None	Outbreaks 10 Slaughtered 223	Outbreaks 2 Attacked 25	None	Outbreaks 2 Attacked 2	Outbreaks 2

IRELAND.

None	Outbreaks 35 Slaughtered 452	Outbreaks 1 Attacked 1	Dogs 10 Other animals 2 Destroyed 48	None	None

SUMMARY OF RETURNS OF OUTBREAKS for the four weeks ending August 13th, 1898.

ENGLAND AND WALES.

None	Outbreaks 154 Slaughtered 2,556	Outbreaks 49 Attacked 93	Dogs 0 Other animals 0 Destroyed 12	Outbreaks 22 Attacked 32	Outbreaks 16

SCOTLAND.

None	Outbreaks 8 Slaughtered 44	Outbreaks 7 Attacked 17	None	Outbreaks 4 Attacked 4	Outbreaks 1

IRELAND.

None	Outbreaks 35 Slaughtered 379	None	Dogs 4 Other animals 5 Destroyed 23	None	None

Parliamentary Intelligence.

HOUSE OF COMMONS, *Monday, August 8th.*

On the vote to complete the sum of £105,726 for the salaries and expenses of the Board of Agriculture,

Mr. STRACHEY (Somerset, S.) moved the reduction of the salary of the President of the Board in order to call attention to the action of the Board with regard to the swine fever order of the present year. He pointed out that in 1895 there were 641 outbreaks of fever, 207 in 1896, and only 72 in 1897, and contended that the fall in numbers indicated that there was no necessity for a stronger order in the county. The action taken had been in direct opposition to the wishes of the county council. Moreover, the alteration had been made at a most inconvenient time to farmers—namely, May 1, when there was always a great movement of fat swine.

Mr. WARNER (Staffordshire, Lichfield) contended that this was a very serious matter, and caused a lot of trouble to dairy farmers, who were the most important section of farmers. This order practically prevented the ordinary business of fattening pigs from being carried on. He urged that the dog muzzling order should be reconsidered, and pointed out that in certain districts it was unequally applied.

Colonel LOCKWOOD (Essex, W.) hoped in regard to any experiments which might be carried on every possible precaution would be taken to see that there was no unnecessary suffering.

Mr. CHANNING (Northamptonshire, E.) said he was inclined to give his support to the general policy of the Department.

Mr. LONG (Liverpool, West Derby), was understood to say that the House had unanimously decided the policy which should be pursued with regard to swine fever, which was an extremely insidious disease. He had never regarded the condition of things as to that disease as satisfactory, nor was there any substantial improvement, but, nevertheless, the number of cases had decreased, leading them to hope that in time they should be able to combat the disease. He believed there was a cure, and that was to prevent movement so as to avoid infection through contact. They were doing their best, but they could not stamp out a disease of this kind without interfering with the material interests of many of the breeders concerned. The hon. member for Lichfield referred to the dog-muzzling orders, and appeared to be unconvinced by the figures which he annonnced the other day as to the efficacy of dog muzzling. If the hon. gentleman would give a quarter of the attention to the subject that the advisers of the Board had he would very soon find there was nothing in the march of the mad dog to laugh at. Close observation and examination showed that there was such a thing as the march of the mad dog, and if the Board drew their orders in a manner which it was difficult for outsiders to understand the Board must be judged by the result, for it was by that that they were prepared to abide. Whether the orders were failures or successes, the one responsible person was the Minister, and if the hon. gentleman desired to attack anybody concerning them he must attack him, and not officials of the Board, who were unable to defend themselves in the House. As to vivisection, no experiments were being made on dogs except those necessary to ascertain whether a dog had died from rabies. Experiments were made upon rabbits, and they certainly were necessary in order that a vast amount of suffering might be saved to a large number of human beings. The only other experiments they were conducting were as to the use of mallein, a curative for glanders. In both cases the experiments were conducted under the closest supervision, and every precaution was taken to prevent any abuse of the powers sanctioned by the law. The Board were

satisfied that if the insidious and horrible disease of rabies was to be eradicated a certain amount of inconvenience must be inflicted upon the people of the country, particularly upon those in densely-populated centres. He appealed to every one to bear with the Board, and hoped that at no distant date they would be able to congratulate themselves upon the result.

Mr. WARNER said that he had not laughed at the march of the dog, but at the system of defining the districts affected by the Board's muzzling orders.

Mr. LEWIS (Flint Boroughs) thought that the swine-fever orders were so easily evaded that it was questionable whether the money spent in attempting to extirpate swine fever would not have been quite as well thrown into the Thames.

Mr. STRACHEY asked whether, as a result of the new swine-fever order relating to Somerset, there had been a decrease of swine fever in that county.

Mr. LONG said he could not say what had been the result of the new order in Somerset. In the country generally, however, there were 1,702 outbreaks in the first 31 weeks of this year. The figures for the corresponding period of last year were slightly less, but in the first 31 weeks of the previous year there were 3,670 outbreaks.

Mr. LAMBERT (Devon, South Molton) asked what was the annual cost of carrying out the swine fever regulations.

Mr. LONG replied that the cost was considerably over £50,000 a year.

Mr. DOOGAN (Tyrone, E.) complained of the restrictions imposed by county councils.

Mr. LONG said he could not interfere with the discretion of county councils in making rules for their own protection.

Mr. WOODS (Essex, Walthamstow) said that in his constituency there was a strong feeling against the muzzling order, which he largely shared. He very much doubted the utility of dog muzzling, and unless the President of the Board of Agriculture could satisfactorily explain the rules on which the lines of demarcation between places where the order was in force and where it was not were settled he would be justified in dividing the Committee. In the county of Essex the muzzling order was in force, but at Southend it was not, and he was told it was quite a common thing for a gentleman to go down from London with his dogs muzzled and on arrival at Southend to remove the muzzles and let the dogs run free. If the muzzling order was necessary, it should have general application to the whole country, and not be enforced in some parts of the country and not in others. He believed that muzzling drove many dogs mad.

Mr. LONG said the honourable member was evidently not in the House when he spoke earlier in the evening on this subject and explained the principles on which the muzzling order was enforced.

Mr. WOODS replied that he was in the House and he thought the explanation the right hon. gave was far from satisfactory.

Mr. LONG said that was very likely, as the hon. member so strongly opposed the muzzling of dogs. But, however unsatisfactory he found it, the explanation was the only one he had to offer. So he suggested that the hon. member should divide the House as the simplest way of settling the matter.

The Committee then divided, when there voted :—

For the reduction of the vote	45
Against	130
Majority	85

Mr. CHANNING (Northampton, E.), said he noticed that the Board of Agriculture asked £3,000 less this year than last for administrative work and grants in aid in connection with diseases of animals. The unanimous recommenda-

tion of the recent Royal Commission on Tuberculosis that the sum of £5,625 should be spent on initiating in this country the tuberculin test which had proved so successful in Denmark and other countries in coping with tuberculosis—that terrible scourge to animals, and through them to the human race—was ignored by the Board. The enormous prevalence of this disease was shown by the fact, which was proved before the Commission, that on an average 33 per cent. of calves and as many as one in every two dairy cows were affected by it. The recommendations of the Commission were that a laboratory should be opened in this country for the scientific preparation of the tuberculin test, that it should be offered gratuitously to those who desired to use it on their animals, and that the State should pay the expenses of the veterinary surgeons in carrying out the test. Already foreign conntries where the test was applied, such as France, were excluding British cattle because they were not sold under the test. There was therefore the risk that this country would lose considerably if the tuberculin test was not adopted.

Mr. LONG said the Board of Agriculture attached the greatest importance to the very valuable report of the committee, and were very much indebted to the hon. member for Wigtownshire and his colleagues for the exhaustive and careful examination they had made on the subject. But he was a little disappointed with that portion of the report which dealt with the use of tuberculin. What was suggested was that the Government should provide tuberculin and pay for the cost of its application to cows by veterinary officers. It was true that the cost would be very small, about £5,000 a year. But he did not believe it would be of the slightest use providing tuberculin unless they were prepared to give compensation to the farmer in the event of the animal being condemned. The question went far beyond the Agricultural Department and the agricultural community. It was asserted in the committee's report that there was a very large amount of tubercular disease amongst the herds of this country and that in consequence dairy products became infectious. As to that there was still considerable doubt, and from the information he had at his command he could not help thinking the risk to human life in this connexion was very much exaggerated. But if there was a danger to human life the question became a general and national one, and might involve the payment of a large amount of public money as compensation to owners. The recommendation of the committee had only gone part of the way. What they suggested the hon. member for Midlothian had done for himself with the greatest possible success, and he was now able to say that he had entirely eradicated the disease from his herds. What that hon. member had done ought to be done by others; and he (Mr. Long) hoped that the hon. gentleman's method would become more generally known. He was quite willing to consider further the question of circulating information on the subject, but he would not feel justified in asking the Treasury for £5,000 to spend upon work of this kind so long as he had not the smallest indication of any desire on the part of the agricultural community to put these powers into force.

Mr. CHANNING admitted that the question of compensation must necessarily arise in any legislation on this subject. He expressed profound regret that the Board of Agriculture, when a great scientific discovery was placed at the disposal of agriculturists all over the country, should hesitate to initiate a policy that had been recommended.

Dr. CLARK (Caithness) said that tuberculosis was terribly on the increase. Dairies, especially those near the large towns, were carried on under conditions which tended to develop the disease. He hoped the Board of Agriculture would reconsider their position and would do something to carry out the report of the Tuberculosis Commission.

Mr. URE (Linlithgow) said he could not understand why a distinction

should be drawn between the owners of cattle infected with tuberculosis and of cattle infected with pleuro-pneumonia and swine fever. In the two latter cases compensation was given. He hoped the Government would consider the question of compensation in the former case also.

Mr. V. CAVENDISH (Derbyshire, W.) hoped his right hon. friend would adhere strictly to the position he had taken up. They were as yet in a very uncertain position in regard to this disease. He instanced the case of a cow on one of his own farms, which he was told had contracted tuberculosis; he applied the test, and the symptoms seemed to indicate that the animal had the disease, but it was then discovered that the cause of the cow's indisposition was that it had swallowed a lady's hair-pin.

Mr. LONG intimated that all the points which had been mentioned by the hon. members would receive his careful consideration, and he appealed to the Committe to allow the vote to be taken in view of the other matters remaining to be discussed.

Mr. LEWIS (Flint Boroughs) called attention to the amount which was expended on agricultural education, which he considered was very small as compared with that spent on this very important subject by other countries.

Mr. BRIGG (York, W.R., Keighley) thought that a much larger sum should be devoted to agricultural education, this country not paying nearly so much attention to this subject as Canada and other countries, by whose competition the agriculturists at home suffered keenly.

Mr. LONG replied that the two hon. members who had raised this question, lost sight of the fact that the money provided by the Board of Agriculture for agricultural education, was not by any means the total sum devoted to this object, and it was extremely unfair to draw a comparison between Great Britain and other countries, and at the same time utterly to ignore the large sums which had been placed in the hands of county councils to be used for this and kindred purposes. There had been a large increase of agricultural education of a practical character under the auspices of county councils, and the Agricultural Department was able and willing to give assistance by its advice to the managers of these schools. No doubt the department would find the means of usefully spending more money if they had it at disposal, and if hon. members would put more money under its control, the department would endeavour to use it to the best advantage.

Mr. LEWIS explained that he had specifically referred to higher agricultural education, and he had in mind the work of county councils in this direction. Certainly he did think that in the higher branches of agricultural education we were far behind other countries. County councils were doing their part to the limits of their capacity, though he could name some councils who were applying nothing in this direction. He did not say that Wales suffered from unfair distribution of funds, but upon general grounds he desired that through the medium of the colleges with which the Department was in connexion the work of higher education should be extended.

Mr. BRIGG disclaimed any intention of misleading the Committee, and fully recognized the work done by county councils. He had been interested in their work for many years, and could say that in reference to the establishment of dairy schools, lectures, and teaching, he had not yet found that benevolent paternal guidance the right hon. gentleman professed on the part of the Department, and he hoped that now that Department might be approached with a prospect of receiving more assistance than they had been given in the past.

Dr. CLARK drew the attention of the right hon. gentleman to paragraphs 15 and 16 of the report of the Tuberculous Commission, and suggested that the Department should supply tuberculin, with directions for the application of this test.

Mr. CALDWELL (Lanark, Mid) found that, though of comparatively recent establishment, the expenses of the Agricultural Department had increased at an extraordinary rate. Examining the accounts, he pointed out how the salaries of secretaries and clerks had exceeded the scale fixed by the Commissioners for this as for other departments, and thought it his duty to protest against this. In relation to the pay of veterinary inspectors, he desired an explanation why an officer in Liverpool received £400 or £500, while in Glasgow the post was deemed only worth £250. He noted also a number of instances in which dual appointments were held by officers of the department when obviously they could not effectually discharge the double duty, and he also objected to recipients of considerable pensions for naval and military services holding appointments with large salaries. To emphasize his objections to these pluralities, which existed in this department more than in any other, he begged to move the reduction of the vote by £500.

The Committee divided, and there voted :—

For the reduction	43
Against	126
Majority against	83

Mr. LLOYD-GEORGE (Carnarvon Boroughs) drew attention to the fact that only £7,350 was voted for agricultural dairy education. This was, in his opinion, an altogether insignificant sum for so important an object, and he trusted that the President of the Board of Agriculture would use his influence to secure a much larger grant.

Mr. LONG reminded the hon. member that the sum of £7,350 was limited to England, but he quite admitted that it was a small sum and that a larger grant would be of great advantage. He should be very glad indeed if he were fortunate enough to obtain from the Treasury more money for this important purpose.

The vote was agreed to.—*The Times.*

Legal News.

AT the Bradford City Police Court, on Friday, 22nd July, 1898, James Emsley, farrier, Thornton Road, was summoned for illegally taking up the description of a veterinary surgeon. Mr. A. Neill, solicitor, prosecuted on behalf of the Royal College of Veterinary Surgeons. There was no claim that the defendant was qualified. His offence consisted in having had above his premises a sign bearing the words "Veterinary Shoeing Forge and Horse Infirmary." There had, Mr. Neill said, already been a decision to the effect that the use of the words "Veterinary Forge" was an infraction of the Veterinary Surgeons Act, 1881. Defendant pleaded ignorance. He said that the sign was up when he took the premises sixteen years ago, and had, he supposed, been there thirty years. The magistrates imposed a fine of £1 and 14s. costs, with the alternative of seven days imprisonment.—*Bradford Observer.*

DISEASED MEAT CASE IN EDINBURGH.

AN action of some interest to butchers and cattle dealers was decided by Sheriff Hamilton at a special diet of Edinburgh Small Debt Court on Monday, 11th July, in which George Wilson, cattle-dealer, 9, Brougham Place, sued Alexander Thom, dairyman, 13, Iona Street, Leith, for the recovery of £11, being the price paid for a fat cow consigned by Thom to Swan's fat stock sale at Haymarket, on Tuesday, 7th June, the cow having been condemned when slaughtered immediately afterwards. Mr. Sym, advocate, represented

the pursuer, and Mr. Cook, advocate, the defender. The defender admitted the tubercular condition of the cow after slaughter, but denied any knowledge of the presence of disease when it was consigned to the mart, which knowledge the pursuer sought to prove. The evidence showed that the animal appeared in the ring as a fat, healthy cow, and expert evidence, led by the city inspectors and Professor Dewar, was to the effect that it was very difficult to tell if an animal was suffering from disease when seen in the ring, unless it was in a very advanced state of tuberculosis. The only accurate test was by an injection of tuberculine, but while this process only took a few minutes in operation, it required a day or two for observation. The Sheriff said he found no facts proved warranting him to give decree, and he would grant absolvitor to the defender, with £1 9s. 6d. of expenses. The court was crowded with those interested in the case.

CONTRAVENTION OF THE SWINE FEVER REGULATIONS AT STRANRAER.

In the Justice of Peace Court at Stranraer, on 11th July, Robert Rorrison, dairyman, Port-o'-Spittal, parish of Stoneykirk, was charged with a contravention of the Swine Fever Order of 1894, made by the Board of Agriculture, under the Contagious Diseases (Animals) Act, he having, between the 5th and 13th days of May, moved 20 swine into his premises, whereby he was liable in a penalty of £5 for each animal and the expenses. He pleaded guilty. Mr. J. M. Rankin, the Fiscal, said that in the view of the Board of Agriculture this was a case of considerable importance. It was under their instructions that the prosecution had been ordered. The chief inspector of the Board of Agriculture found great difficulty in carrying out these orders in the county of Wigtown, and was anxious that notice should be taken of the penalties, so that the law might be enforced. The respondent knew the order that was recently made. It was explained to him by the officer who served the notice on him. Notwithstanding, he had wilfully committed the offence. Mr. Belford, for the respondent, said that the respondent, who was only a young lad, was not wholly aware of the effects of the order. Mr. Aitkin said that his colleague on the bench was of opinion that there had been an error of judgment on the part of the accused, but, as a warning to others, a fine of £1, with £1 10*s.* of expenses, would be imposed.—*Scottish Trader.*

DEATH OF COWS FROM EATING FOXGLOVE.

Sheriff Henderson, Paisley, has given decision in the action at the instance of Mrs. Mary Wylie of Kirkpatrick, Meekleriggs, Paisley, against James Bowie, farmer, Foxbar Farm, Paisley, in which pursuer sought £96 17*s.* for reparation for the death of four cows and injuries to others, caused through them eating foxglove on a field which she had rented from the defender for grazing purposes. The pursuer alleged that defender was bound to cut down any poisonous plants on the field; but liability was denied, and contributory negligence alleged. The Sheriff found that the cattle had died from eating foxglove, but that the pursuer had failed to prove that the defender had guaranteed the field in question to be capable of grazing the number of cattle she had put on it; and that, in placing so many cattle upon the field, there was not enough safe fodder for them, and they had eaten the poisonous growths. The defender, therefore, had contributed to the loss. In Renfrewshire, his Lordship added, and the immediately adjoining counties, where a proprietor let pastures for grazing by the season, he cut down the weeds by his own servants; but it had not been proved that this practice prevailed where a tenant-farmer let a field for grazing to a sub-tenant. He accordingly assoilized defender, with expenses.—*North British Agriculture, 17th August.*

RINDERPEST CONFERENCE.

Memorandum adopted at the Conference held in Cape Town on the 13th June, 1898, between the Colonial Veterinary Surgeon, the Director of the Bacteriological Institute, and the Medical Officers in charge of the Experimental Station, Kimberley.

THIS Conference regards with very great concern that rinderpest still exists in in several areas of the colony, and although large numbers of cattle have been inoculated, yet among those there are very numerous animals in which the immunity is fast disappearing, if, indeed, it is not already gone.

Should rinderpest gain access to such herds a very heavy mortality would probably result, and while such areas are dangerous to their immediate surroundings, they form resting places for rinderpest, and thus menace the whole colony.

Wherefore, if rinderpest is to be thoroughly stamped out, a definite and uniformly firm line of policy should be carried out.

While it is possible to maintain complete immunity by bile inoculation repeated at certain intervals, it is practically impossible to make provision for this repeated inoculation with bile except at an enormous sacrifice of animal life, and further, it is impossible to procure suitable animals for the production of bile, even if the colony were prepared to make the sacrifice.

Hitherto when rinderpest has appeared in herds which have been previously inoculated with bile, a prompt re-inoculation with bile has had the effect of arresting the further spread of the disease in that herd, due to the fact that the immunity conferred by the first bile inoculation had only passed off in comparatively few of the animals in the herd. But recent experience has shown that in many herds which have been inoculated with bile, after a period of six months or more the immunity had passed off completely in the great majority of the animals, and as a second bile inoculation does not give protection to the animals until eight days have elapsed, by this time a great many would have become affected. In fact, the results are similar to what would take place in an affected herd which had not been previously inoculated with bile.

But if such a herd were inoculated with serum in accordance with the directions given below, the disease would be arrested at once, and the great majority of the animals rendered permanently immune.

The Conference, therefore, strongly recommend that serum inoculation only should be adopted.

Arrangements will be made to send out only serum which has been properly tested, and the strength of the dose accurately ascertained. Full directions will accompany each lot of serum sent out.

Directions for the Use of Serum.

(*a*). For herds which have been inoculated within the previous six months with bile or bile and blood, and in which there is no disease. Such herds should be inoculated firstly with virulent blood and two days later with a dose of serum. Under this system of inoculation a number of animals may become severely affected, and a small percentage might succumb. In order to prevent this, and to modify the severity of the attack, it is recommended that a second dose of serum should be injected on the fourth day after the blood inoculation. This second dose should be at least double that of the first.

(*b*). For herds which have been inoculated with bile, or bile and blood, more than six months previously, or in which the disease has re-appeared. Such herds should be inoculated with virulent blood and serum simultaneously.

(*c*). For clean herds, not previously inoculated, the simultanous method of inoculation should be used.

(*d*.) For dairy cows, or cows heavy in calf, to which the owner does not want to communicate the disease, a large dose of serum only should be given, to protect them while the others are passing through the disease.

(*e*). In the case of infected herds, those already visibly sick should be separated from the rest of the herd, and should immediately receive a large dose of serum. In some cases of animals already sick, very good results have been obtained by bleeding the animal freely, and then injecting a large dose of serum; but it is to be clearly understood that where animals are already very sick, it is not by any means certain that they can be saved by serum, even if this is used in large doses.

With respect to the remainder of the herd, the temperature of each animal should be taken previously to inoculation, and any one showing a high temperature, indicating that it is already infected, should receive a large dose of serum only, while to the remainder the simultaneous method of inoculation should be applied.

The average dose of serum for healthy animals varies according to size, as follows :—

(*a*). For calves under six months, 8 c.c.
(*b*). For calves from 6 to 18 months, 10 to 15 c.c.
(*c*). For animals of average size, 20 c.c.
(*d*). For larger animals, 25 c.c.
(*e*). For very large animals, 30 c.c.
(*f*) The dose of serum for animals already affected should be large, varying from 40 to 200 c.c., according to the size of the animal.

Dairy cows, or cows heavy in calf, may be immunised for a considerable time by the injection of large doses (100 to 150 c.c.) of serum alone.

D. Hutcheon.
Alexander Edington.
George Turner.
Wilhelm Kolle.

Review.

The Harness Horse. By Sir Walter Gilbey, Bart. London. Vinton and Co., Ltd.

This booklet just fills a hiatus in the veterinary surgeon's fund of knowledge. It provides him with the facts necessary to prove to farmers and others his arguments in favour of the necessity of and profit from breeding with only sound and well-shaped animals.

Sir Walter points out that this country is almost entirely depleted by the wily foreigner of our best and soundest stock for the breeding of the various classes of carriage-horses, and he shows what horses we are now annually having, when at one time we looked upon this breeding as an enormously profitable business.

Every veterinarian should read this work, and assist Sir Walter in maintaining and—we are afraid to say it—regaining our prestige as breeders of carriage-horses. The book, which is well got up, contains some good plates, showing the various types of carriage-horses.

Notes and News.

PUBLIC SLAUGHTER-HOUSES FOR LONDON.—The Public Health Committee of the London County Council have issued a report as to the desirability of establishing public slaughter-houses throughout London. In his report upon the subject, the committee state, the medical officer of health showed the inadequacy of the inspection of meat consumed in London, and pointed out that to ensure the proper inspection of meat killed in London he considered it absolutely necessary that all animals should be killed in public slaughter-houses, in which alone due inspection was possible. It appears that the greater number of animals now slaughtered in London are killed in the slaughter-houses of the Corporation of the City of London, at Deptford and Islington, but information obtained from occupiers of private slaughter-houses, of which there are some 450 in London, shows that in winter some 900 beasts, 7,000 sheep, and 900 pigs, and in summer 800 beasts, 11,000 sheep, and 500 pigs are killed per week in these premises. The systematic inspection of these animals is impossible in view of the numerous premises in which they are killed. The medical officer is, therefore, of opinion that it is desirable to afford butchers the opportunity of killing animals in some half-dozen public slaughter-houses to be owned by the council. The first step should be to require that all animals slaughtered in London should be killed in public slaughter-houses, and that stations should subsequently be provided for the examination of all meat killed in other parts of the country, and not already subjected to inspection in public slaughter-houses. The committee point out that they have carefully considered the recommendations of the Royal Commission on Tuberculosis, and that with these recommendations and the views expressed by the medical officer they entirely concur. The question necessarily arises whether the provision of public slaughter-houses and stations for the inspection of meat will involve cost to the ratepayers? They think that every effort should be made to render these places self-supporting, but that it would be futile at present to attempt to submit estimates, as so much will depend upon the locality of the sites, the circumstances of the trade, and the character of the buildings. They propose to transmit their opinions on the matter to the Local Government Board with an intimation that the council are prepared to accept such responsibilities as may be necessary to give effect in London to the recommendations of the Royal Commission on Tuberculosis, and to ask the Local Government Board whether they will include in any legislation introduced by them in connection with the Commission's report the provisions which will be necessary for this purpose.

TUBERCULOSIS AND THE FRENCH LAW.—The French Minister of Agriculture has just furnished the prefects with instructions in relation to the application of the new legislative measures dealing with indemnities in cases where tuberculous meat is sold. The law, it may be noticed, was passed in April last, and it has provided that in case of seizure of meat on account of its being affected with tubercle, compensation shall be granted to owners who have conformed to the law and police regulations. In cases where tuberculosis is generalised, compensation will be equal to a moiety of the value of the meat seized, and, where it is localised, to three-quarters of this value. Where, upon slaughter at the instance of the authorities, it is found that an animal is not tuberculous, the total value will be paid; but in this case, where a portion of the carcase is sold by the owner under the direction of the mayor, the sum realised by such sale will be deducted from the sum paid as compensation by the State. In accordance with the conditions of the sanitary law, any owner of stock who suspects that an animal has been attacked by tuberculosis must make a declaration before the mayor of his commune.

When the disease is proved to exist the prefect will issue an order for every animal to be placed under surveillance of the veterinary authorities. The diseased animals will be isolated and sequestered, nor can they be moved unless for slaughter. Slaughter will in all cases be carried out under the surveillance of the veterinary authorities, who will make a *post-mortem* of each animal and send to the prefect a certificate within five days after slaughter. Upon receipt of the request of the owner, slaughter can take place at the nearest abattoir in accordance with certain regulations provided by an existing law. The veterinary surgeon, in order to determine the value of parts of a carcase seized, will keep account of the marketable quality of the meat and the price of the category to which each portion belongs, in accordance with the price of the day. If the owner of an animal is absent at the time of slaughter and valuation, or if he refuses to accept the valuation of the veterinary surgeon, he must make mention of the fact. The certificates provided by the veterinary inspector must be in duplicate, one to be handed to the farmer, the other, after having been examined by the mayor of the commune in which the animal has been slaughtered, must be addressed to the prefect by the mayor within five days. Under these conditions it rests almost entirely with the French farmer to make every case known as it arises. If he neglects to comply with the regulations, and his stock, or meat produced upon slaughter of any portion of his stock is seized, he will have himself to blame. Whether any similar regulations will ever be applied in this country is doubtful. It is not a little curious that in spite of the publicity which has been given to the whole subject there has been practically no agitation, and even the report of the Royal Commission on Tuberculosis has fallen somewhat flat. The fact appears to be that people, and even those who suffer most, are induced to stir only when they can see immediate results.—*Yorkshire Post*, 13th August.

RECENT PATENTS.

THE following list of recent applications for patents relating to veterinary science has been specially prepared for the VETERINARY JOURNAL by Messrs. Cambie & Winckelsett, Office for Patents, 40, High Holborn, London, W. C., with whom we have made arrangements that all inquiries relating to veterinary or other inventions will be answered by them free of charge to our readers :—

No. 13,710. Gustav Lorenz, "Process for the Production of a Permanent Preparation, containing the White Corpuscles of the Blood Serum of Swine, Immunised against Swine Fever."

No. 13,749. Robert Baillie Wright, "Improvements in and relating to Hoods or Blinds for Covering or Shading the Eyes of Horses and other Animals."

No. 13,901. Daniel Paar and Henry Paar, "Improvements in Horse-shoes."

No. 13,903. Joseph Jobban and Johann Thury, "Improved Calkins or Studs for Horses."

No. 13,949. Milton Clark Gray and Alexander Cecil Goff, "Improvements in Horse-shoes."

No. 14,660. William Ullyot, "Improvements in Appliances to Vehicles Stopping Runaway Horses."

No. 14,698. Edwin Raybould and James Raybould, "Composite Circular Saws for the manufacture of horse-shoe studs, cogs, toe-pieces, nuts, pipe sockets, chain studs, and the like."

No. 14,850. George Milne Laird, "A Remedy for Reducing Mortality among Sheep.

No. 14,982. Samuel van Buskirk, "An Improved Bridle."
No. 15,142. William Hutchison, "Improvements in Appliances for Releasing Horses from Carriages."
No. 15,329. Jabez Lones, "Improvements in the Manufacture of Horse-shoe Blanks and in Machinery used in the said Manufacture."
No. 15,362. Charles Henry Huish, "Improvements in Veterinary Surgical Instruments."
No. 15,364. Charles William Bonell, "New or Improved Composition for Blacking and rendering Harness Leather and Similar Materials Impervious to Moisture."
No. 15,365. Edward Dobson, "Improvements in and in connection with Horse-shoes."
No. 15,440. Victor Jehin, "Improvements in and relating to Gaiters or Leg Bands for Horses."
No. 15,445, Archie Davies, "A Novel India-rubber Hot-water Vessel for Veterinary Purposes."
No. 15,574. Karl Julius Gaitzch, "Improvements in Means for Fastening and Securing Detachable Toes and Calkin for Horses."
No. 15,594. Joseph Faraday Chambers, "A Parasitic Worm Solvent or Vermifuge."
No. 15,639. John William Newman, "An Improved Rug and Surcingle."
William Owen Williams, "An Improved Horse-measuring Standard."

Extracts from Foreign Journals.

INFLUENCE OF MORPHINE AND OF ETHER ON THE PAINS OF TRAVAIL.

It has long been known that chloroform and also chloral, the latter in a less degree, exercise a paralysing action on the uterus in travail. The researches of M. Hensen have shown him that morphine taken in therapeutic doses, is without any influence on the energy of the uterine contractions and of the abdominal muscles; that ether, on the other hand, like chloroform, diminishes the force of these contractions, and increases the interval in their production; that this action of ether ceases from five to twenty minutes after administration has ceased, whilst that of chloroform prolongs itself for more than two hours; that in consequence, ether ought to be preferred to chloroform in obstetrical practice when anæsthesia is rendered necessary by an operation, because the contractions rapidly "awaken" again.—(*Semaine Médicale*).

THE PRESENCE OF TUBERCULOSIS BACILLI IN BUTTER.

ALTHOUGH primary tuberculosis is much rarer in the intestine than in the lung, it is none the less true that in man the digestive tube often serves as an entry for the Koch bacilli. The alimentary products of animal origin are the principal vehicles for these germs: meat, milk and its derivatives, perhaps even eggs, too—if identity of species be admitted for both human and aviary bacilli—are particularly to blame.

In a recent work on this subject, Dr. Lydia Rabinowitsch examines the question from the point of view of the butter furnished by tuberculous animals. The author first reminds us that Heim has determined the persistence of the virulence of the Koch bacilli 30 days after their mixture with

butter. Gasperini observed the same fact after 120 days, and he adds that the better the butter is preserved, the longer does the virulence persist. On the other hand, Laser notes that bacilli, though still virulent after six days, had begun to diminish in number, and that after 12 days they had lost all their infectious properties. Bang also proclaims the virulence of the butter of animals affected by mammary tuberculosis. Out of nine specimens of shop-butter, Brusafers once came upon Koch bacilli. Roth found them twice out of twenty samples. Schuchart infected only one single animal when carrying on inoculations with 42 samples of butter. Gröning appears to have obtained 8 positive results out of 17 specimens; but the controlling body allowed only one microscopic examination, which is far from being sufficient, according to Rabinowitsch. At the Berlin Hygienic Institute, Obermüller found virulent bacilli in the 14 specimens of butter which he examined. But it should be added that this butter came from the same dairy in which, the year before, bacilli had already been found in an enormous percentage of specimens of milk. On the other hand, Obermüller seems not to have checked his researches by cultivations nor by re-inoculations, limiting himself to anatomical examination of the corpses of the animals infected by inoculation.

In view of these facts, Koch advised Rabinowitsch to find out whether the bacilli found so frequently in milk and in butter were real tuberculous bacilli, or only microbes resembling them. Rabinowitsch operated upon 30 specimens of butter collected in Berlin, and on 50 from Philadelphia. Each specimen was at first subjected for 12 to 24 hours to the stove at 30° (centigrade), in a sterilised vessel. In almost every case under these conditions the melted butter separated into three layers: an upper, clear, transparent, formed of yellow fat; a middle one, white, a kind of caseous deposit; and a lower one, aqueous. At the beginning of his researches, Rabinowitsch inoculated a series of three guinea-pigs with butter specimens, in the ratio of 4 to 5 cubic centimètres of the caseous layer per head; later on he administered 2 to 3 c.cs. of the mixture of the two lower layers; finally, he injected them with 4 to 5 c.cs. of the fatty layer (a cubic inch = $16\frac{1}{3}$ cubic centimètres). Each specimen of butter was, on the other hand, subjected, layer by layer, to the test of cultivation and to microscopic examination. In almost every case the superficial fatty layer showed itself poor in germs or quite sterile. The animals inoculated per peritoneum were killed after a lapse of time varying from three weeks to three months. Rabinowitsch presents the total result of his operations in the form of a synoptic table with their results, from which he deduces the following conclusions:—

I. In none of the 80 specimens of butter examined did he meet with the presence of real tuberculous bacilli, recognised as such by cultivation and experimental inoculations.

II. In 23 only, or 28 7-10ths per cent., did he produce lesions which, from the anatomical and micro-biological point of view, might be confounded with those of veritable tuberculosis, but which could be easily distinguished from them by a searching examination. It was a case of pseudo-tuberculosis.

This is how Rabinowitsch describes the pseudo-tuberculous bacilli of butter, examined either in the butter itself, or in the cultivations, or in the lesions which they excite in the guinea-pigs inoculated. They are immobile and isolated bacilli, straight or more often a little curved, reminding one of those of tuberculosis. In the tissues they frequently form streaks. Sometimes they are joined together, end to end, by long non-ramified fragments; sometimes, however, they are divided into irregular fragments. Their size is little greater than that of the Koch bacilli. In their interior was observed the presence of grains which took on colouring matters strongly, but no spores. They behave exactly like the true tuber-

culosis bacilli, as regards colouring reactives, to such a degree that under this head there is no means of differentiating them, even by employing the method of Housel or of Bunge and Trautenroth, the methods recommended for distinguishing the bacilli of smegma from those of tuberculosis. Rabinowitsch, however, obtained a certain difference of colouring reaction with methylene blue in an extensive aqueous solution. Whilst the Koch baclli remain pale with a deep colouring of their granulations, the pseudo-bacilli colour uniformly, though the interior granulations sometimes appear more deeply coloured than the tip. When the solution of methylene blue is concentrated, the reaction is identical for both kinds of bacilli. In the sections of tissues preserved for a long time in alcohol the pseudo-bacilli do not resist the acid discolourants as well as the real Koch bacilli.

(*To be continued.*)

Obituary.

FROM JANUARY TO JULY 30TH, 1898.

Hughes, R. C., Denbigh	December, 1889.
Price, Thos., Birmingham	April, 1858.
Ingersol, F. R., Lewisham	April, 1862.
Otway, F. T., Great Stanmore, Middlesex ..	March, 1875.
Spalding, James, Blairgowrie	April, 1883.
Jennings, J. F., retired army	July, 1827.
Tooth, J. E., Forty Hill, Enfield	December, 1892.
Gibson, A. H., Birmingham	April, 1862.
Russell, B. H., Capt., Grantham .. F. July, 1878	April, 1872.
Sewell, Edward, Dublin	May, 1838.
Wraith, W., Brentwood, Essex	June, 1842.
Rogers, H. G., Brompton Road, S.W.	March, 1885.
Chase, H. P., Tiverton	April, 1877.
Whitmore, G. S., Longport	April, 1863.
Roberts, W. T., Oswestry	July, 1881.
Poulton, C. G., Coggeshall	January 1878.
Dalby, A. E., Docking, Norfolk	April, 1877.
Menzies, D., St. Austell	April, 1863.
Tait, John, Annan, Dumfriesshire	January, 1848.
Harris, H. C., Vety.-Lieut., A.V.D.	December, 1890.
Rogerson, Edwin, Bedford	May, 1857.
Darais, P. J., Rathowen, Ireland	December, 1892.

Communications, Books, Journals, etc., Received.

Veterinarian; Record; British Medical Journal; Lancet; Report of the Bombay Veterinary College for year 1897-98; Chemist and Druggist; Bulletin of The John Hopkins Hospital; The Journal of Comparative Medicine and Veterinary Archives; The Scottish Medical and Surgical Journal; American Veterinary Review; Cattle Tuberculosis, by T. M. Legge, M.A., M.D., D.P.H.; The Public Health Journal; The Journal of the Jamaica Agricultural Society; The Surveyor; The Photogram; La Riforma Veterinaria (Naples); Recueil de Médecine Vétérinaire (Alfort); L'Echo Vétérinaire (Liège); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); Deutsche Thierärztliche Wochenschrift (Hannover and Karlsruhe); La Clinica Veterinaria (Milan); La Revista Veterinaria (Buenos Aires); Agricultural Journal (Cape Town); Bulletin de la Société des Sciences (Bucarest).